

AMERICAN BEE JOURNAL

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1914

Index true



American Bee Journal



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IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is \$1.00 a year, in the United States of America and Mexico; in Canada, \$1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

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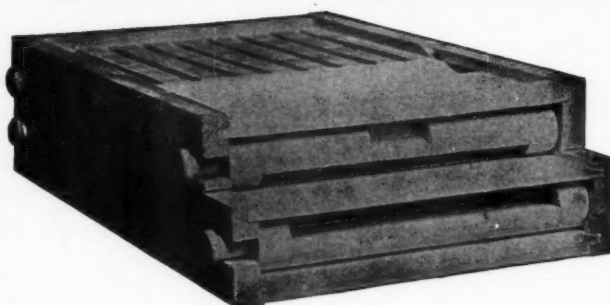
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Untested, one, 75c; 6, \$4.25; 12, \$7.50; 25, \$14.25; 100, \$50. Tested, one, \$1.50; six, \$8.00; 12, \$15. Breeders of either strain, \$5. Nuclei with untested queen, one-frame, \$2.50; six one-frame, \$15; two-frame \$3.50; six two-frame \$20.40; nuclei with tested queen, one-frame, \$3.00; six one-frame, \$17.40; two-frame, \$4; six two-frame \$23.40. Our Queens and Drones are all reared from the best select queens, which should be so with drones as well as queens. No disease of any kind in this country. Safe arrival, satisfaction, and prompt service guaranteed.

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NOTICE IS HEREBY GIVEN

that the partnership heretofore carried on by the "CHAS. E. HOPPER COMPANY" as dealers in beekeepers' supplies, etc., has been this day dissolved by mutual consent. All debts owing to the said partnership are to be paid to The Root-Canadian House at 183 Wright Avenue, Toronto, Ont., and all claims against the said partnership are to be presented to the said Root-Canadian House, by whom the same may be settled.

DATED at Toronto this 20th day of November, 1914.

Witness:—
CHAS. E. HOPPER CO.
JOHN A. PATERSON.

P. S.—The business will be continued as before by The Root-Canadian House, 183 Wright Ave., Toronto, Ont.

ARE YOU GOING TO BUY LAND?

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Farm and Real Estate Journal
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We cannot tell you all about these courses, the faculty and the free bureau of advice in this ad, but we will be glad to send you full information at any time. Write and ask for our free catalog No. 3, and a sample copy of the Scientific Farmer.

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The Beekeepers' Review Clubbing List for 1915

In the following combinations we offer periodicals of sterling worth. Remember, you are not receiving some premium of questionable value, but a saving of dollars and cents on your 1915 reading matter. The combination offers with the reduction we are able to allow are as follows:

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| The Review | \$1.00 | All five | Save \$1.30 on this combination. | | |
| Woman's World | .50 | \$1.25 | The Review | \$1.00 | \$4.00 worth |
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| Total value | \$3.00 | | The Review | \$1.00 | Both for |
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| The Review | \$1.00 | Both for | The Review | \$1.00 | Both for |
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| American Bee Journal | 1.00 | only \$1.50 | American Bee Journal | 1.00 | only \$2.00 |

Special offer to new subscribers: To those ordering early before the supply is exhausted, we will send in connection with any of the above combinations, the last eight months of the Review for 1914, which contains the National convention report with many valuable papers read at said convention, besides other articles of value not appearing in other papers. Address, with remittance,

THE BEEKEEPERS' REVIEW, Northstar, Mich.

American Bee Journal

4 Percent December Discount on "falcon" Bee Supplies

How much percent interest do you get in the bank—wouldn't it pay to invest in bee supplies now and save the 4 percent—you'll have your money tied up only a few months?

"Falcon" foundation and supplies have the quality, and with the superior workmanship back of them make them perfect.

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Remember we are the manufacturers of that sweet pure "Falcon" foundation. We have OUR OWN plant and OUR OWN process for making foundation. Samples will be gladly sent for your inspection.

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"Simplified Beekeeping," postpaid

Dealers Everywhere

W. T. FALCONER MFG. CO.,

FALCONER, N. Y.

Where the good bee hives come from

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Owing to the many enquiries we have had for Honey Labels, we have put in a line of these for the convenience of our readers.

Send for catalog, giving samples of labels with postpaid prices. We also list **Envelopes and printed Letter Heads.**

American Bee Journal, Hamilton, Illinois.



Please mention Am. Bee Journal when writing.

Gleanings in Bee Culture for 1914.

The Magazine for the Beginner, Back-lotter, and Specialist Beekeeper

For several years we have been doing our best to make GLEANINGS an indispensable publication for the wide-awake beekeeper whether he has but one colony, a small suburban apiary, or a series of out-apiaries numbering hundreds of colonies in all. We believe we have never received such enthusiastic approval of our efforts as we received in 1913, when hundreds of letters from our friends told of their appreciation. We wish that we might print a number of them here, but we prefer to utilize the rest of the space for outlining our plans for 1914. For 1914 we shall continue the special numbers, the feature which has so delighted our readers during the last three years. In deciding just what subjects to take up, we have not selected topics at random, for we have been guided by expressions of the majority.

JANUARY 1—Bees and Poultry.—We think we are safe in saying that no special number that we ever published proved so popular as our February 15th issue for 1912. In getting out another special number devoted to the interests of poultry-raising and beekeeping, we propose to surpass our former efforts and to get together the best material possible on poultry raising from the beekeepers' standpoint.

FEBRUARY—Bees and Fruit.—Our March 15th issue for 1912 has been used far and wide by beekeepers and fruit-growers alike to show the value of bees in large orchards. In the two years that have elapsed, however, so much new material has developed that in order to be entirely up to date it is really necessary to have another special number on the same subject. We have a wealth of material that has never before been given to the public. Extensive fruit-growers, who are not especially interested in honey-production, will tell of the value of bees in orchards.

MARCH 1—Beekeeping in Cities.—Probably few beekeepers realize the number of beekeepers there are in every large city. City beekeeping is a most interesting topic, and in addition to stories of beekeeping told by professional men, we shall have discussed various problems connected with bees in

attics, or roofs, and in back lots. We also have a true story of a beekeeper in a city who was fined \$100.00 because his bees were considered a nuisance, and who afterward appealed to a higher court and won out. A good story.

APRIL—Breeding.—Ever since we first began having special numbers there have been requests on the part of a good many of our readers for a special number on breeding. We are glad that we are able to arrange for it this year, for it is a fact that very little is known in regard to breeding bees. Breeding is one of the most important subjects connected with our pursuit. We shall publish special articles by noted queen-breeders on qualifications of breeding queens. Queen-rearing both for the small beekeeper and the specialist will be fully discussed.

JUNE 1—Moving Bees.—We, ourselves, expect to move 300 colonies of bees to Florida, get a good honey crop, double the number of colonies, and move them back again in the spring. Details of moving by boat, wagon, auto-truck, and by rail will be fully described and illustrated, and other large beekeepers having experience along this line have also promised articles for this number.

AUGUST 1—Crop and Market Reports.

—There has never yet been a systematic effort put forth for the compiling and publishing of comprehensive crop and market reports from various parts of the country. In 1914 we are going to make the effort of our lives to get telegraph reports from important fields, such as the clover-belt, Texas, Colorado, Idaho, and California, etc. These will be published right along as soon as we get them, but in this August 1st issue we shall have a grand summary of the crop reports and conditions of the market in general. No beekeeper should miss this important number.

SEPTEMBER 1—Wintering.—We have not yet learned all there is to be learned in regard to wintering. A number of specialists are going to make experiments during the winter of 1913-14, which experiments will be published in this number. We shall also give our own experience summed up as to feasibility of wintering northern apiaries in the South.

IS NOT ALL THIS WORTH WHILE?

We have now given you our plan for 1914. If you are now trying to make the most out of your bees, we feel sure you cannot afford to miss such a wealth of information as the subscription price, \$1.00, will bring you.

The A. I. ROOT COMPANY, Medina, Ohio

Special Club for Bee-Keepers

You cannot buy from any source or at any price a finer combination of bee literature and general reading. The standard quality of both papers and books shown here, with the extraordinarily low cost, make a most attractive opportunity.



THE FARM JOURNAL

is unquestionably the leading agricultural and home magazine. It goes every month into more than 800,000 homes in every State in the Union, Canada, Mexico, and foreign countries. It was first issued in March, 1877. Contains from 32 to 80 pages, according to the month. It is printed on good white paper, in large clear type, and freely illustrated.

The Farm Journal is cut to fit all subscribers, not only those of one section. It will be found equally valuable in Maine, Kansas, Pennsylvania, Oregon, or Alabama.

It is timely, treating topics in season only.

It is as practical as a plow and as full of meat as an egg; no dry theory.

It is cheerful, full of life and humor; likes a grin better than a groan.

It guarantees every advertiser to be honest, and was the first paper in the world to do this (October, 1880). All medical advertising is refused.

Few other periodicals, not even religious papers, can compare with it for cleanliness and purity. Consequently, it is the paper for children and young people. It never has to be carried out of the house with the tongs.

The publishers spend all their time and efforts on the paper, to make it brighter and more useful. They publish no other periodical; FARM JOURNAL is not the tail of any kite.

All is crisp, concise and boiled-down, with sparkles of wit here and there, and such a cheerful, happy, sunny spirit throughout, that each page is an inspiration. You would hardly believe that a farm paper could be made so entertaining and readable. It is entirely unlike any other periodical in the world.

We confidently commend it to every farm and village home in America.

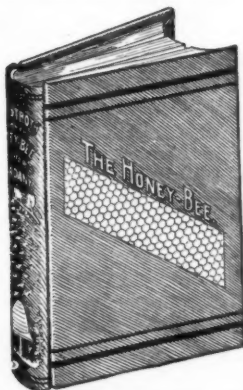
We need say nothing of the AMERICAN BEE JOURNAL, with whose excellent qualities you are familiar. Here are our great offers:



Illustration from Biggle Bee Book

Langstroth on the Honey-Bee

This is one of the standard books on bees. It tells in a simple, concise manner just how to keep bees. It was originally written by Rev. L. L. Langstroth, the inventor of the movable-frame hive in 1851. The book has been brought right down to date by those expert bee-keepers—Dadant & Sons—than whom there are no better nor more practical bee-keepers in this or any other country. The book contains nearly 600 pages. It is fully illustrated, and bound in cloth. Every topic is clearly and thoroughly explained, so that by following its instructions no one should fail to be successful with bees. Price, postpaid, \$1.20.



Read the full descriptions of the two books. Taken together, they are invaluable to every owner of bees, or everyone who expects to establish an apiary, large or small.

Send orders to the American Bee Journal, Hamilton, Ills., or to the Farm Journal, Washington Square, Philadelphia.

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Offer No. 1
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American Bee Journal (\$1.00) **BOTH FOR \$1.60**

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Biggle Bee Book . . (\$.50)
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American Bee Journal (\$1.00) **ALL FOR \$2.50**

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One of the foremost bee-keepers in the country assisted Judge Biggle in the preparation of the Bee Book, and it has won praises everywhere for its practical character, conciseness, and accuracy.

Contains 136 pages, 19 chapters, and a full index. Profusely illustrated with 65 half-tones from photographs.

All about varieties, hives, swarming, queen rearing, spring and winter care, outapiaries, comb and extracted honey, diseases, enemies. Cooking recipes using honey, complete list of honey plants for different latitudes, calendar for the bee-keeper, etc.

Nothing else in the way of directions is needed to insure success with bees. Price, postpaid, 50 cents.

To Publishers American Bee Journal,
Hamilton, Ills.

For the enclosed \$.....send me your offer

No....., as advertised, fully postpaid, entering my subscription to the American Bee Journal 1 year and the Farm Journal 5 years.

My Name is.....

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When you consider buying Bee Supplies, ask yourself these questions:

Where can I buy (not the most) the best for my money?

What kind of material will I get?

What sort of workmanship will be furnished?

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===== HERE IS THE ANSWER : =====

The G. B. Lewis Company has been in the business of manufacturing bee supplies for forty-one years. It has grown from a carpenter shop to a plant covering nearly six acres of ground, with an annual output of 30,000,000 sections and 100,000 hives. During all the years, in the face of advancing prices on material and labor, the scarcity of suitable lumber, competition of cheaper and inferior goods, it has had many opportunities to cheapen its product at the expense of quality. But it has steadfastly stood by its guns, maintaining one standard of quality and workmanship. LEWIS BEEWARE is the same today, was the same yesterday, and will be the same tomorrow.

Now, what about the workmanship in these goods?—What skill do they represent? In a word, what is their personality? The business has been under one management, and the lumber has been bought by one buyer for twenty years. He is still managing the business and buying the lumber. The head mechanic came into the factory when a boy. He has been supervising for thirty-six years. The Bee-hive superintendent has been devoting his life to making Bee-hives for thirty years. The Section boss has been watching the Lewis Section machinery and output for twenty-nine years. These men represent the skill, the brains and the conscience that go in the goods. We ask you again—**DOES THIS MEAN ANYTHING TO YOU?**

A WORD ABOUT LEWIS PACKING—The Lewis Company also make a business of Packing Boxes; therefore, they know how goods should be packed. A patent woven wood and wire package, made only by the Lewis Company, is employed largely in packing. This makes the package light, compact and damage proof.

WHO IS BACK OF THESE GOODS?—The LEWIS COMPANY has for forty-one years stood back of every transaction it has ever made. On examination of Lewis goods, if they are not as represented, you are not asked or expected to keep them. This is our guarantee, and applies to Lewis distributing houses as well as the factory. The Lewis Company has a reputation for fair and square dealing second to none.

LEWIS BEEWARE may be obtained almost at your own door. Thirty distributing houses located at convenient points throughout the United States and foreign countries are there to serve you.

Our 1915 catalog will be ready for distribution at the usual time. Send for one giving name of distributor nearest to you.

G. B. LEWIS COMPANY

Manufacturers of Lewis Beeware

Watertown, Wisconsin, U. S. A.



(Entered as second-class matter at the Post-office at Hamilton, Ill., under Act of March 3, 1879.)

Published Monthly at \$1.00 a Year, by American Bee Journal, First National Bank Building

C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., DECEMBER, 1914

Vol. LIV.—No. 12

EDITORIAL COMMENTS

Bee Meetings

The following meetings are already scheduled for the future as indicated. Secretaries are urged to write, giving date of meetings so that they may appear in these columns:

New York State Association of Beekeepers, Syracuse, Dec. 1 and 2.

Minnesota State meeting, Minneapolis, Dec. 2 and 3.

Kansas State meeting Dec. 4 and 5, Topeka, Kan.

Missouri State meeting, St. Joseph, Dec. 7 and 8.

Michigan Beekeepers' Association, Lansing, Dec. 9 and 10.

Akron, N. Y., meeting, Akron, Dec. 15.

Chicago-Northwestern, Great Northern Hotel, Jackson Blvd. and Dearborn St., Chicago, Dec. 17 and 18.

Washington State, North Yakima, Jan. 6 and 7, 1915.

National Beekeepers' Association, February (date to be decided), Denver, Colo.

Smoke Method of Queen Introduction

The reader will find in this number several articles on the "smoke method" of queen introduction. As this subject has been thoroughly discussed already, we will close it until a season's work has given further chances of experiment.

Modern Beekeeping

It is somewhat surprising for the American beekeeper to read commendation of ancient methods in some of the foreign bee publications. The fixed comb hive, *gum* in America, *skep* in the British Isles, *panier* or *bournac* in

France, is a "back number," used only by the man who does not read, who knows nothing about positive bee culture. That some sort of honey crop is harvested with these old systems, does not prove them good. There are still millions of bushels of wheat harvested with the ancient sickle and cradle. Profitable beekeeping depends upon modern methods, upon the entire control of the hive, the brood, the queen, the surplus, by the apiarist. We are quite sure that not a dozen of our subscribers are supporters of the "skep system" for honey production. The fixed comb-honey producers are in the uninformed class. Their product is inferior because not put upon the market in best shape and their numbers are constantly decreasing. In the spots where beekeeping thrives without modern methods, greater crops will sooner or later be made by modern ways. The transformation is slowly but surely taking place.

Dr. Miller on Superseding

On page 305, September number, J. L. Byer says: "How I wish my bees were as sensible as Dr. Miller's, page 279. He says: 'The bees usually requeen in good time, if the matter is left to them.' And for that reason he does not do away with 2-year-old queens, if they appear to be making good. Sorry to say that I do not practice systematic requeening, *but* in my case quite a large percentage of the colonies fail to replace 2-year-olds before they fail, and often act this way

just at the close of fruit bloom, and this means a set back for the clover harvest."

To this Editor Dadant replies in a foot-note, saying: "The answer criticised by Mr. Byer is not by Dr. Miller, but by the junior editor, as may be seen by the initials, C. P. D. at the foot of the reply. The question had been asked of me. Dr. Miller might have replied in a way more suited to Mr. Byer's views."

Prudence might counsel that it would be well for me to keep entirely silent, as it is no funeral of mine, and there is not much chance to reconcile the two engaged in the controversy, since their experiences are unlike, yet the matter is of so great importance that it seems worth while to talk about it, and of my own experience connected therewith.

One cannot help asking why it is that in one case the bees can be safely trusted to requeen in good time, and not in the other. And why should it be that some leave the matter of requeening entirely to the bees, while others advocate that no queen should be allowed to live even as long as two years? I leave to others to answer whether it may be due to the difference in localities, in management, or in bees.

In referring to my own experience, allow me to go "by the book," that is, my record book of the bees' doings. I find that in the year 1913 3 colonies of the 91 changed their queens in May. In 1914 there were 3 of the 84. Bunching the two years it makes 6 in 175, or about one in 30. Of course, there is the possibility, if not the probability, that in one or more cases the queen may have been accidentally killed. In all other cases, I think, except one, there was no superseding until well

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along in July or later; so late as to make no practical interference with the honey crop.

It may be that in general a queen of the previous year does better than an older one; but I have had many cases of extra work from queens more than 2 years old. In the best year I ever had, 1913, the queen of my eleventh best colony was one which was born late in July, 1910, and in her fourth year before the season closed.

So the behavior of my bees is such that I do not believe I would gain enough, by taking the requeening into my own hands, to pay for the trouble. Indeed, if I should object at all to having attributed to me the saying that the bees usually requeen in good time, if the matter is left to them, my objection would be that it states the case rather mildly.

I would not have it understood that I never take into my own hands the matter of requeening. I always do when I can conveniently replace a queen with a better one; but no queen is ever replaced by me merely because she has arrived at a certain age.

Even if I believed that by replacing a queen on account of old age I should get from that particular colony enough more honey to pay for the trouble of requeening, there are two reasons why I should not want to do so.

First, it is the belief of some good authorities that longevity is an important factor, and if each queen should be killed upon arriving at a certain age, it certainly would not tend to increase longevity.

Second, if there is one thing of more importance than another in management to get the biggest yield of honey, I believe it is the constant improvement of stock by breeding from the best. Practically no queen can ever make a record in the same season in which she is born. For example, if she is born any time in 1914, she will not be born early enough to have the crop of 1914 credited to her. It is to be credited chiefly to her predecessor. She will make her record in 1915, since all the workers of that season are her progeny. Then in 1916 she can be used as a breeder. Still better will it be if she is left to make the crop of 1916, to be used as a breeder in 1917. Of two colonies which give an equal yield in 1915, one may yield better than the other in 1916, and should have the preference. There are other things, such as temper, swarming, and wintering, which it may be well to watch for the second season. Neither will it do to depend upon a single queen. No

matter how good her record, accidents may happen and she may be dead before time to rear queens. So a number of those above the average are needed from which to select, and this number should be all the larger because from them our drones are reared, and good drones are just as important as good queens.

I do not say that what is best for me is best for every one, but on the whole I believe it is best for me to leave superseding to the bees themselves, being allowed all the time the privilege to replace a queen with one that I believe better, whenever opportunity offers. I feel that I have some endorsement in this belief in the fact that having followed this policy for many years, in a locality that I do not believe up to the average, I still have crops that are satisfactory.

C. C. M.

Eat Honey

In the contributed articles of this number, under the heading of "Glucose Again," Dr. Bonney advises the use of white and red stickers, "EAT HONEY," of the same size as shown in the article.

This idea appealed to us, and we immediately had a cut made to print 64 of these stickers at a time. Dr. Bonney states that he pays 50 cents a thousand for similar stickers. On ordinary lots we can make a price of 35 cents a thousand, postpaid, and could do much better on orders totaling a million or more.

We have some of these stickers on hand already. Send for a supply of five or ten thousand, and help sell more honey.

Melting Wax

Our neat and trim contemporary, the *Beekeepers' Gazette* (Irish) for October, quotes the *Melbourne Times*, which says: "When melting wax, add one ounce of sulphuric acid to every gallon of water."

Please, don't! Unless you want to destroy the bee and honey smell of your beeswax, replacing it by a sour, unpleasant odor. An ounce to 30 gallons of water would be ample to do that. Melt your combs, with plenty of rain water, in a tin vessel, over a gentle fire, and you will have wax of nice color, however dark the combs may be. No need of acids.

Neighbors vs. Bees

L'Apicoltore of September quotes a letter from a subscriber whose neighbors threaten him because his bees have annoyed and stung them, and who

asks what his legal rights are in the matter. After having supplied the information the editor says: "But the best way is always that of accommodating gentleness, with the observance of reciprocal rights and duties as kind neighbors."

Right! A little kindness and regard for the welfare of others and tolerance for their feelings will save years of war and trouble. We should all be willing to do a little more than our share towards others. War is more easily begun than stopped. A smile and a little honey will carry us farther than a frown and a sting.

The Sitaris

Mr. F. R. Bartsch, of Chicago, calls our attention upon parts of an article in the *Independent* of Oct. 19, entitled, "Guided Evolution," by W. H. Ward. It says:

"There is a little beetle called the sitaris. It chooses to lay its eggs in the underground passages of a certain sort of a bee. The young larva hatched from the beetle's eggs springs upon the male bee as it emerges from the passage, clings to him, is carried on his nuptial flight, when it passes to the female bee, and remains attached to her until she lays her eggs in the honey. It then leaps on an egg floating on the honey, devours it and develops, rests on the shell and undergoes its first metamorphosis. Now it eats the honey which had been prepared for the grub of the bee and develops into the perfect beetle. Bergson refuses to explain this on Darwinian principles, and is driven to the extraordinary assumption that in a sort of mysticism the invading insect has a sympathetic understanding of the insect it has invaded."

Mr. Bartsch asks which kind of bee is here meant. Can any of our readers reply, and is there any truth in the statement? It certainly has no reference to any of the apis family.

What Determines the Cessation of Laying by Queens?

On Sept. 28 two strong colonies were examined, and neither eggs nor brood were found present. There was no reason for thinking they were exceptional cases. Neither was there any reason for thinking that brood-rearing should close earlier than usual this year, for the flow of nectar, although light, had been continuous. The queens must have ceased laying not later than Sept. 7. Yet in the same apiary were nuclei in which the queens were still laying Sept. 28. That might be accounted for by saying the queens were younger, but is it not possible that the bees in the nuclei did a sort of reasoning in the case, saying: "We are often

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not strong enough in numbers to stand the rigors of winter, and so must keep up brood-rearing just as late as we can."

At any rate, we do not know any too much on this subject, and it would be interesting, and perhaps useful, to have observations made that would give answers to certain questions. When does the average queen, under ordinary circumstances, cease laying? How much longer, if any, does a young queen continue than an old one? What difference, if any, is made by the strength of the colony? Answers to these and other questions in this connection can perhaps be obtained only by the assembled observations of many.

One thing about the cessation of brood-rearing is perhaps not known

as well as it should be. That is that the time when brood-rearing ceases is not always the same as the time when the queen ceases laying. A beekeeper says brood-rearing was still continued upon a certain date, because he found eggs in the hive. But sometimes the queen continues laying although the bees no longer nurse the brood, and only sealed brood, if any, will be found present with the eggs, which seems to indicate that the mere heat in the brood-nest at such times is insufficient to hatch the eggs, and that special effort on the part of the bees is necessary to get up the proper temperature, or else that it is necessary for the nurses to give some special attention to the eggs aside from the matter of temperature.

C. C. M.

per should give good evidence that disease does not exist in his apiary. However, when bees are shipped with nothing but candy for food, there would be little danger of transmitting disease. There is very little doubt that disease, especially American foulbrood, is unknowingly spread by the shipment of honey throughout the country. It is this against which the States should protect themselves, by requiring that certificates accompany every shipment, as with queens.

For the middle North, from the 40th to the 42d degree, it is not necessary to have the bees ready very early. From the beginning of April to the middle of May, bees would be more desirable than earlier in the season.

MISCELLANEOUS NEWS ITEMS

Meeting at Lansing.—The Michigan Beekeepers' Association will hold its next annual convention at Lansing, Mich., on Dec. 9 and 10, 1914.

J. E. MORSE, Pres.

Queen Introduction—The Cage Method.

—Since this number contains several articles on "Queen Introduction," it may not be amiss to mention the method employed by S. W. Snyder, of Center Point, Iowa, the Active Secretary of the Iowa State Beekeepers' Association. During the meeting at Ames, there was a short discussion of introducing methods, and he gave his as follows:

"Catch the old queen, place her in the cage intended for the new queen. After a few hours remove her, and put the new queen in the cage. The bees having become accustomed to the presence of their old queen in the cage, more readily accept the new one, as the old queen odor remains behind."

Bees from the South.—"Some of our beekeepers are interested in finding out whether there is likely to be a demand for bees by the pound in early spring, when your bees in the North first come out of the cellar. At that time, our bees have already had several weeks to build up, and if profitable one could fill up enormously in numbers of bees in the spring."

"If you have had any experience in this matter, we would be glad to hear it and know how much of a demand there is for bees in bulk in your section. Any information concerning the mode of procedure would be appreciated."

SOUTHWESTERN BEE CO.

San Antonio, Tex., October, 1914.

There is always a demand for bees in early spring. Since the decrease in

express rates, the shipping of bees has increased considerably. The old way of shipping colonies in full-size hives is too expensive. Hundreds of shipments are annually made from the South even to Canada. But the ship-

Bitterweed Honey.—"I have about 100 pounds of fine honey that is as bitter as dogwood. I have taken only a few pounds from the hives. The comb is full and capped and looks as fine as can be, but it is impossible to eat it. This honey has been gathered during August and September, mostly from a yellow blossom called 'bitter weed.' It is an annual. It is said to have been introduced here by the purchase of hay, only a few years ago. I do not know where it came from. I haven't yet found any one who knows any other name, in this section. Cows begin to eat it in the spring, the milk and butter are made bitter, and it naturally



COFFEE PLANTATION AT PONCE, PORTO RICO, AND APIARY

In case you desire to publish it, I take pleasure in sending to you a photograph of the coffee plantation "Hacienda Burenes," situated near the city (Ponce), and managed by the firm of Domingo & Amelia Serra, of which I am a member. It produces every year 300,000 pounds of coffee, more or less. It possesses steam and gasoline apparatus for cleaning, washing and drying the grains. It has electric lights and all modern improvements, and is located at an altitude of 1000 feet above sea level. I have marked with an X the site of my apiary and the honey-extracting house. In this apiary the hives are in a hut or shed (baraca), open on all sides and covered with a straw roof. I have other apiaries, on the same plantation, located in the open air. Later, I will gladly send you views of these.

Ponce, Porto Rico.

RODOLFO DEL VALLE.

[The view is very interesting, and we will gladly reproduce others. Many thanks.—ED.]

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obtains the name of 'bitter weed.' It grows both in fields and pastures.

"It seems to have about the same nature as dog-fennel or horse-fennel. It grows, in this section, wherever rag-weeds, fennels, crab-grass and Bermuda grass will grow. It thrives best in cultivated lands. It begins to bloom and seed in early summer and continues on until frosts. Under most favorable circumstances it reaches a height of about 12 to 15 inches, then the first bloom appears, and around this and beneath it shoot out branches until it has sometimes as many as 190 seed heads; these may have from 40 to 50 seeds to the head; so you see it is possible for one seed to reproduce itself 5000 times in one season.

"I am sending you, in this letter, a twig of the weed. *If I leave this honey in the hive, will the bees ever ripen it in such a way as to take the bitter out of it?* If you have had any experience with this kind of honey, please advise me what to do and I will most heartily appreciate it." REV. W. S. WALTERS, Laurens, S. C.

To make sure of a correct answer, we referred the enquiry to our learned friend, Dr. L. H. Pammel, the botanist of the Iowa Agricultural Experiment Station, who is now busy on a study



HELENIUM TENUIFOLIUM
Better known as Bitterweed. (See page 410.)

of the Iowa honey-producing weeds and plants. He says:

"This is the bitter weed or narrow-leaved sneeze weed. This weed, a bad weed in Texas, occurs now from Texas to Virginia. It is the *Helenium tenuifolium*.

"There are several other *Heleniums* in the United States. In the Rocky mountains a species occurs which is carefully avoided by stock because of the bitter taste of its leaves. I have treated of the poisonous nature of this plant in my 'Manual of Poisonous Plants.' It is said to have been widely scattered with hay after the Rebellion. It is known to be the cause of bitter milk and even death of animals. The plant contains a narcotic poison just as our northern sneeze weed does.

"This fall I saw honey bees working plentifully on the northern sneeze weed, *Helenium autumnale*, in Marshall Co., Iowa."

The name *Tenuifolium* is due to the tenuity of the foliage of this weed.

Turning to the files of the American Bee Journal, we find the plant described at different times, by beekeepers unacquainted with botany, as yellow "camomile" or yellow "fennel," which it resembles slightly. Dr. J. P. H. Brown, of Georgia, a former contributor of the American Bee Journal, deceased in 1909, described the *Helenium tenuifolium* in November, 1886. He states that an extract from this plant was used during the Civil War as a substitute for quinine in the treatment of chills and fever. He reports its honey as unfit for use by man, but good for breeding purposes. It has medicinal properties.

The northern sneeze weed, *Helenium autumnale*, mentioned by Dr. Pammel, is reported at different times as a good honey producer. U. Stephenson, in 1888, W. J. Cullinan, in 1890, praised it as a honey plant, though the honey is said to be slightly bitter.

Speaking of the bitter weed of the South, R. H. Whitfield, in the Southern Live Stock Journal, held that there was a greater freedom from disease among bees in the South than in the North, owing to the tonic and prophylaxis of the bitter element in this fall honey.

This honey should be saved and fed to the bees to hasten the breeding in early spring.

Death of James G. Smith.—Through our mutual friend, Dr. A. F. Bonney, we have learned of the death of Mr. James G. Smith, which occurred at Medford, Oreg., on Sept. 12. Mr. Smith kept bees in Iowa for more than 40 years, and though very old was still a beekeeper at the time of his death.

The Tariff on Bee Products.—The Protective Tariff Encyclopedia published by the American Protective Tariff League gives a comparison of the rates of duty during the Payne-Aldrich law and under the present Underwood law.

The duty on honey under the former law was 20 cents a gallon. This has been reduced to 10 cents a gallon under the present law.

Beeswax was formerly and still is admitted free of duty.

Minnesota Inspector Report.—The report of J. Alf. Holmberg, Inspector of Apiaries for Minnesota, is just out. During the year 374 apiaries were inspected, containing 6975 colonies. Of these, 33 apiaries with a total of 197 colonies were found to contain disease. Mr. Holmberg is very well pleased with the small amount of disease found, and

states that it is now well under control. In commenting on the crop, he says:

"The bee industry in the State of Minnesota has been nearly a total failure this year, the spring having been unusually wet and cold. There are few places showing surplus honey, but in the majority of apiaries feeding has been necessary. This state of affairs makes it very unpleasant for both the beekeeper and the inspectors.

"I expect to see a better honey crop next year, as conditions look very promising all over the State at this time."

Chicago - Northwestern Beekeepers' Convention.—The 18th annual meeting of the Chicago-Northwestern Beekeepers' Association will be held at the Great Northern Hotel, Jackson Blvd. and Dearborn St., Chicago, Thursday and Friday, Dec. 17 and 18. An extensive program has been arranged, and as several large beekeepers, such as N. E. France, E. S. Miller and others have signified their intention of being present, a good meeting is assured. The program follows:

THURSDAY, DEC. 17—MORNING SESSION.

- 9:00 A.M.—Social hour.
- 10:00 A.M.—President's Address—C. F. Kanenberg.
- 10:30 A.M.—Reading of minutes and report of Secretary-Treasurer.
- 11:00 A.M.—American Beekeeping—Past and Future—L. A. Aspinwall.
- Crop reports.

AFTERNOON SESSION.

- 1:00 P.M.—Shipping Bees North and South—H. C. Ahlers.
- 2:00 P.M.—Country Wide Advertising to Increase the Sale of Honey—G. E. Bacon.
- 3:00 P.M.—Report of Delegate to National Convention—E. J. Baxter.
- 4:00 P.M.—Bee Cellar—E. S. Miller.
- Question Box.

THURSDAY EVENING SESSION.

- Sweet Clover—Prof. J. G. Mosier, University of Illinois.

FRIDAY, DEC. 18.

- 9:00 A.M.—Social hour.
- 10:00 A.M.—The Price of Sugar and the Honey Market—F. C. Pellett.
- 11:00 A.M.—The Foulbrood Problem—N. E. France.

AFTERNOON SESSION.

- 1:00 P.M.—Stimulative Feeding—Kenneth Hawkins.
- 2:30 P.M.—Brood-Rearing for Crop Results—E. L. Hofman.
- 3:30 P.M.—Comb Honey—Preparing for the Crop—A. L. Kildow.
- 4:00 P.M.—Beekeeping as a Business—E. H. Bruner.

Second-Hand Cans in Australia.—In one of our recent numbers we stated that a regulation has been passed in Australia prohibiting the use of second-hand cans for storing of honey. In this we were not entirely correct. A letter from Major Shallard, in New South Wales, reads as follows:

"The regulation as above was brought into force in the State of Victoria only on the recommendation of the pure food commission who stated that old cans picked up on the rubbish heaps and not properly cleaned were being used by the beekeepers. This was ob-

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viously pure nonsense, as no beekeeper would use dirty, rusty tins when he could get bright, clean second-hand (if you can call a tin which has just been emptied of petrol second-hand) cans, or tins as we call them, for 6 cents each.

"As I said, the regulation was brought into force, but was found impracticable and is now a dead letter. The regulation would just cause the very trouble it was expected to avoid. The tins here have to be given away with the honey.

"Good, bright second-hand tins cost only 6 cents each, and if any get rusty or dirty the beekeepers pitch them away. New tins, specially made, cost 22 cents each, and if they get rusty or dirty they look at the cost before they decide to sacrifice them. Another thing, these tins are so costly that beekeepers will take them back and fill them a second time, but he will not take back any petrol tins.

"The regulation was a stupid one, made by officials who did not know anything of the apicultural business. Victoria is only a small part of Australia, and the latter is as large as the United States."

Missouri Meeting.—The 12th annual convention of the Missouri Beekeepers' Association will be held Dec. 7 and 8 in the Commercial Club Rooms at St. Joseph, Mo.

PROGRAM

MONDAY, DEC. 7—10:00 A.M.

Address of President—J. W. Rouse, of Mexico; Report of Secretary-Treasurer—J. F. Diemer, Liberty; Appointment of Committees; Reception of members.

AFTERNOON, 1:30 P.M.

Rearing Good Queens—J. F. Archdekin, of St. Joseph.

How to Introduce Them and the Smoke Method Described—C. P. Dadant, of Hamilton, Ill.

Artificial Increase—Dr. G. Bohrer, Chase, Kan. (Fifty years' experience.)

Management of Bees During a Good Honey Flow—L. E. Altwein, of St. Joseph.

Disposing of the Honey Crop—M. E. Darby, of Springfield, Mo. (State Inspector of Apiaries.)

EVENING, 8:00 P.M.

Preparing Bees for Winter—Frank C. Pellett, of Atlantic, Iowa. (State Inspector and Vice-President of National Association.)

Sweet Clover—S. P. Halsey, of Nemaha Co., Kan.

Question Box.

TUESDAY, DEC. 8—9 A.M.

L. Haseman, of Columbia, Mo., Entomologist and Chief Inspector of Orchards and Nurseries, will tell us about the Interdependence Between Bees and Horticulture, and Dr. C. R. Woodson, Superintendent of the Sanitarium, St. Joseph, Mo., will tell us about "Orchard Spraying," etc.

C. B. Baxter, of Nauvoo, Ill., a very extensive fruit grower and apiarist, will tell us about "Bees and Fruit."

A. V. Smith, of St. Joseph, will read a paper on "Shook Swarming."

O. S. Mullin, of Holton, Kan., on "Carniolans."

N. M. Jennings, of Franklin, Ind., a veteran, will describe "His Method of Wintering."

Report of standing committees, incorporating, etc.

It will be well worth your time and expense to attend this meeting. To the novice, wintering bees is the hardest problem. Frank C. Pellett, of Iowa, and N. M. Jennings, of Indiana, will tell you how it is done.

Kansas Annual Meeting.—The annual meeting of the Kansas State Beekeepers' Association will be held in the

Commercial Club Rooms, Topeka, Dec. 4 and 5. Mr. Frank C. Pellett, of Iowa, will deliver a lecture on the subject of "Wintering." Every one interested in bees is requested to attend these meetings.

O. A. KEENE, Sec.

Topeka, Kan., Nov. 5.

Washington State Meeting in January.

—The Washington State Beekeepers' Association will hold their 21st annual convention in the Farmers' Room in the Court House in North Yakima, on Wednesday and Thursday, Jan. 6 and 7, 1915. We expect a large gathering, and are in hopes to have some celebrated visitors in attendance. We desire the attendance of every member, as we shall discuss the foulbrood law which the committee is now working on and wishes to have passed at the coming meeting of the Legislature.

J. B. RAMAGE, Sec.

North Yakima, Wash., Rt. 7.

Kansas Horticultural and Bee Meetings.

—The Kansas State Horticultural Society and the Beekeepers' Association of that State are planning to co-operate in holding their meetings this winter. The horticultural meeting will occur on Dec. 2, 3 and 4, and will be followed the same week by the bee meeting.

We understand that Mr. Frank C.

Pellett, the efficient inspector for Iowa, is to be on the program of both meetings. His subject at the horticultural meeting will be, "Our Backdoor Neighbors."

Massachusetts Wax Rendering Station.

—Dr. Burton N. Gates, Associate Professor of Beekeeping at the Massachusetts Agricultural College, informs us that the college has installed at Amherst a plant for rendering beeswax for the beekeepers of the State of Massachusetts. They have a capacity of several hundred pounds per day. Beekeepers of that State who desire to try their services should write to Dr. Burton N. Gates, Amherst, Mass., before sending any combs to them.

National Meeting at Denver.—The National Beekeepers' Association will hold its annual session at Denver, Colo., some time during the month of February. The exact date and program will be announced later. Denver being situated in the center of the producing country, and many of the largest producers of the country within easy reach, we may well expect a meeting of "live wires." Present indications promise well for a big attendance. Come and "get together and boost."

GEO. W. WILLIAMS, Sec.

Redkey, Ind.

BEE-KEEPING FOR WOMEN



Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Failure With Smoke Method

Mr. Arthur C. Miller says that the failure to introduce queens by his method was emphasized in this department in the October number. There was certainly no desire to emphasize it as a matter to be proud of. It was rather a matter of humiliation to both Dr. Miller and his assistant that they should have failed with a plan which was so signally successful in the hands of others. But generally we may benefit by our mistakes, and so it has been the policy in this quarter to report failures as well as successes.

The trouble in this case is to know just why there was a failure. There was no attempt to make an improvement on Mr. Miller's plan, but every effort was made to follow implicitly his instructions. Mr. Miller makes two guesses as to the cause of failure; first, that the bees were not in a state of distress from choky smoke and close confinement; or, second, that the bees were in a disturbed condition from getting the queen out. The second guess can hardly apply, for the queens had been out at least the day before the introduction. It is quite

possible that the bees were not in a state of sufficient distress; but why? The smoke was given exactly according to directions; at least it was the earnest intention to follow directions implicitly. He is quite right in saying our hives are not smoke-tight. In hot weather there is a 2-inch entrance and a 1/4-inch ventilating space at the back of the hive next the super. But at the time of operating these were closed.

In trying to think of what should make the difference it was natural to think of that deep space under the bottom-bars, and then to think that this would give the queen less chance to pass directly through the hostile periphery bees. Mr. Miller rightly says the idea of this outer wall of bees was not from him. No, it will be found on page 385 of this journal for November, 1913, where Dr. Bruennich says in part: "On the periphery outwardly of the pollen-garland, we find the old, malign, suspicious bees are always snuffing treachery. * * * With the direct method of introduction, the periphery bees on the board are intimidated by the smoke; therefore, the queen may pass those ill-tempered guardians and penetrate to her kingdom, the center,

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where there is no longer any danger."

Even if we reject Dr. Bruennich's view, we may still, by way of guessing, lay the fault to that deep space of 2 inches under the bottom-bars, taking in connection with it Mr. Miller's guess that the smoke was not sufficiently confined. Certainly it will take more smoke to fill such a hive than one with the ordinary bottom-board. If Mr. Miller thinks this is not the right guess, it is his turn to guess.

Beekeeping in a High School

Beekeeping as a vocation for women is being encouraged by the school authorities among the girls of the Nature Club of the Girls Central High School, 17th and Spring Garden streets, Philadelphia, Pa., and the idea has gained many enthusiastic followers within recent months.

The great interest aroused in the students, began last year with the purchase of a bee hive by the Board of Education, which was installed at the school. With the introduction of the bee hive, a few girls took up the study of bee culture, more as a fad and from curiosity than anything else. From this small beginning the idea began gaining a firmer foothold upon the minds of the students as they went deeper into the ramifications of beekeeping, and gradually other students became interested until now bee students at this school number over two score.

No professor at the school, no matter what the course may be, has been able to arouse a third of the interest in his or her course, as that taken by the students of bee culture, who willingly pursue their studies long after school hours.

Several of the girls of the bee chapter have purchased hives and continued the study at their homes, and it is more

than possible that future owners of extensive apiaries will be found among the enthusiastic students.

Several teachers at the school having become interested in the new chapter of the Nature Club, have taken up the study of bees during their spare moments, and are compiling lists of books for the benefit of the students. They are enthusiastic over the interest shown by the students of the school in bee culture, and are using every endeavor to arouse interest among hundreds of the other girls in the work.

Honey Trees and Plants of the Blue Ridge Mountains

The winter of 1913-14 was ideal for our bees in the mountains of North Carolina. Steady cold all winter with no unusual cold snaps. They came through with plenty of stores in 8-frame hives, when apples bloomed, which was the last days of April. We have a fine fruit country, so have lots of apple blossoms. My bees began in the supers before apple blossoms were all gone and swarmed May 16, and the honey, which was a little dark, was gathered from poplar and dogwood trees and wild flowers. I remove the supers from the hives where the bees have commenced to work to the ones that are backward, just when the locust blooms, about May 20, in order to keep the locust honey separate.

We got a full super from the locust, which was fine honey, so thick and white. There are thousands of locusts in this section. A good farmer never cuts a locust except for fence posts. They stand about in the pastures, and the turf is always better under the locusts. A locust tree in full bloom in good weather is the most beautiful sight a beekeeper can see. Unfortunately, the frost gets the bloom sometimes, but it hardly ever gets all of it, as those on

the hills do not freeze as easily as those in the valleys.

White clover is our next honey plant, and I think our bees get honey from red clover, too, at least they work on it a lot. Our bees work slowly in the super after locust bloom is over until chestnuts bloom, about June 20, when they go to work with a rush. I am not sure whether the bees get honey from the chestnut bloom or not, but I guess they get both honey and pollen.

Sourwood is next. It is the king of all honey plants in the South. If you locate where your bees can get sourwood honey you are safe. Just tell any one you have sourwood honey and that is all they want to know. Sourwood has never failed since I have kept bees, and it yields in such an abundance. You can take a spray of flowers and slap them across your hand and see the drops of honey (nectar) on your hand. It is marvelous to watch the honey the bees store in the supers from day to day.

Our honey flow begins to slacken after July 15. Later on in August we sometimes get some buckwheat honey. We have lots of fall flowers to keep up brood-rearing, but not for any surplus.

Black bees are kept mostly. A few have ordered Italians, but they soon get mixed. We bought ours from the south side of the mountains, which is the best bee country for Italians, but since I have gotten some real Italians I see mine are more like black bees.

There are a few farmers that have patent hives, but bees are kept mostly in box gums, and a very few ever have honey to sell. I don't suppose there is a regular "professional" beekeeper to be found anywhere close by. If there is one I haven't heard of him.

We do not have any bee diseases. So far the moth gets the credit for every colony that dies, and you cannot make a beekeeper believe otherwise. One neighbor ordered "moth balls" to put into his hives. However, the bees died before they came, so I did not see which decamped, bees or moths.

There is lots of unoccupied bee territory in this country, especially along the Blue Ridge, and a beekeeper on the top of the mountains could take advantage of the flora of both sides; for instance, the locust on the south side blooms two weeks earlier than on this side.

We winter in single-walled hives without any protection. I have been thinking I would pack one for winter just to see if they do winter better. However, I have been "beekeeping" three years and have 29 colonies, and have never lost a colony. The "hubby" says if I should lose one we would have to have a funeral and bury it as I am so cranky over my bees.

[MRS.] J. T. REEVES.

Laurelsprings, N. C.

Your interesting letter shows very clearly the great difference in locality as to the sources of honey surplus. You get surplus from apple, poplar, locust, and sourwood, while we are limited practically to white clover, although we do get some fall honey; but so nearly is white clover our only source that if it were cut off we would have to quit beekeeping.



BEEKEEPING IN THE PHILADELPHIA SCHOOLS

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You say sourwood never fails. You are surely fortunate to have at least one source that never fails, and doubly

so as it is your finest honey. With us white clover too often fails, and that spells failure of the honey crop.

Paonia; Treasurer, R. W. Ensley, of Read.

The Foulbrood Situation

Mr. H. E. Harrington gives some of his ideas on foul brood inspection on page 354 of the October number of the American Bee Journal. He says that before foulbrood may be suppressed or eradicated every beekeeper must be his own inspector. He also recommends the licensing of beemen as fishermen and hunters are licensed.

Every beekeeper should be his own inspector, but I do not agree with him that he must be, if any control over foulbrood is to be had. The inspectors are a great help in limiting and controlling American foulbrood, and American foulbrood has been markedly reduced in percentage in all Colorado counties where thorough inspection has been carried on for two years or more, without regard to the abilities of the average beekeeper to detect the disease.

If some method could be devised such as licensing beemen it might help, but it would be rather inconvenient for a man to rush off to the Court House for a bee license before he could hive a swarm of bees that may have clustered on the limb of a tree in his orchard. Practically it might work out as well as do fishing and hunting licenses. But shall we from now on consider beekeeping as a sport?

Mr. Harrington says that there is

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Delta Co., Colo. Beemen Organize

The Delta County Beekeepers' Association was organized at Hotchkiss, Colo., Saturday, Oct. 31, with about 20 members. The Cedaredge district was especially well represented, nearly all the beemen from there being present.

The spraying and foulbrood troubles were discussed, and committees appointed to work on these problems and if possible recommend some definite action at the next meeting which will be held in Hotchkiss. Mr. Cole, from Cedaredge, had on exhibition at the meeting a dovetailed hive, which he had made in his mill in Cedaredge. It was made from native clear lumber and was certainly well made. Its advantages are that native lumber is not so subject to warp, and there is a saving in cost. Mr. Cole will also make shipping cases another season, if the demand warrants it.

The expressed opinion was that spraying cover crops in orchards while the cover crops are in bloom should be prohibited by law.

The association members each furnished the secretary the number of colonies each has and also the names of his neighbors and their number of colonies. This information will be of great service to the inspector.

The committee on foulbrood will also advise with the inspector, and a plan of operation for control of the foulbrood situation is being formulated.

The assessment of one cent per colony for protective purposes is provided for as well as a 50 cent yearly membership fee.

The officers for the coming year are: President, Frank H. Drexel, of Crawford; Vice-President, Geo. F. Lester, of Delta; Secretary, Chas. V. Alton, of



GLEN FREEBORN IN HIS APIARY AT ELM DALE, KAN.

American Bee Journal

nothing binding on the beekeeper to clean up. I would consider that the knowledge that if treatment is not given within the time specified that the owner is liable to a fine and perhaps have his bees destroyed, is fairly binding upon the beekeeper. He acts ac-

cordingly, at any rate. In a majority of cases treatment is given with a good degree of promptness.

The inspectors have the right to destroy diseased colonies and combs in Colorado, and I think the same is true in other States.

It comes up from seed the latter part of spring, or about May 1, and grows to a height of about 14 inches by the middle of August, when it begins blooming and blooms until about the middle of October, dying down just before frost.

The photograph shows a single stalk of this weed during its blossoming period. The husks of the blossom which cluster about its base soon drop and the tiny seeds ripen. This plant will grow and bloom anywhere and on any kind of soil in the South except on very low wet land, but it spreads slowly except where the seeds are scattered by the tramping of animals and passing vehicles. That is why we see it only along roads and by-places where animals most frequently pass.

It is truly a nectar-laden plant. Though it does not grow in great fields as yet, bees will store from 20 to 35 pounds of surplus per colony from it. Its flowers are a deep yellow, and the honey light yellow, heavy body, and soon granulates when extracted. It is very bitter; in fact, it is about as

BEE-KEEPING



IN DIXIE~

Conducted by J. J. WILDER, Cordele, Ga.

Beekeeping as a Business

The country is experiencing at present disturbed conditions, and many men in all vocations of life are severely tried financially. Under such conditions it might be a good time to bring up beekeeping as a business and see how it compares with other lines of business.

We are holding our own very well. Giving my own experience, under the conditions, marketing and collecting has been a little backward, but as yet there has not been any reduction in prices, and I will be able to sell out by the time my new crop is ready for market, should the conditions not get worse. For those who devote their entire time to beekeeping, and have no other business in connection with it, I can frankly say that even the man who is making the poorest showing is making at least a good living at beekeeping. When this season's business is wound up, none of us should have to borrow money with which to do business. That shows we are doing well. All of my honey is removed and packed ready for our regular customers except about half of our Florida crop, which is yet to be prepared for market. With all this done, I am now (Nov. 6) starting with my family to Bradentown, Fla., to spend the winter again. I hope my correspondents will note the change in my post-office address.

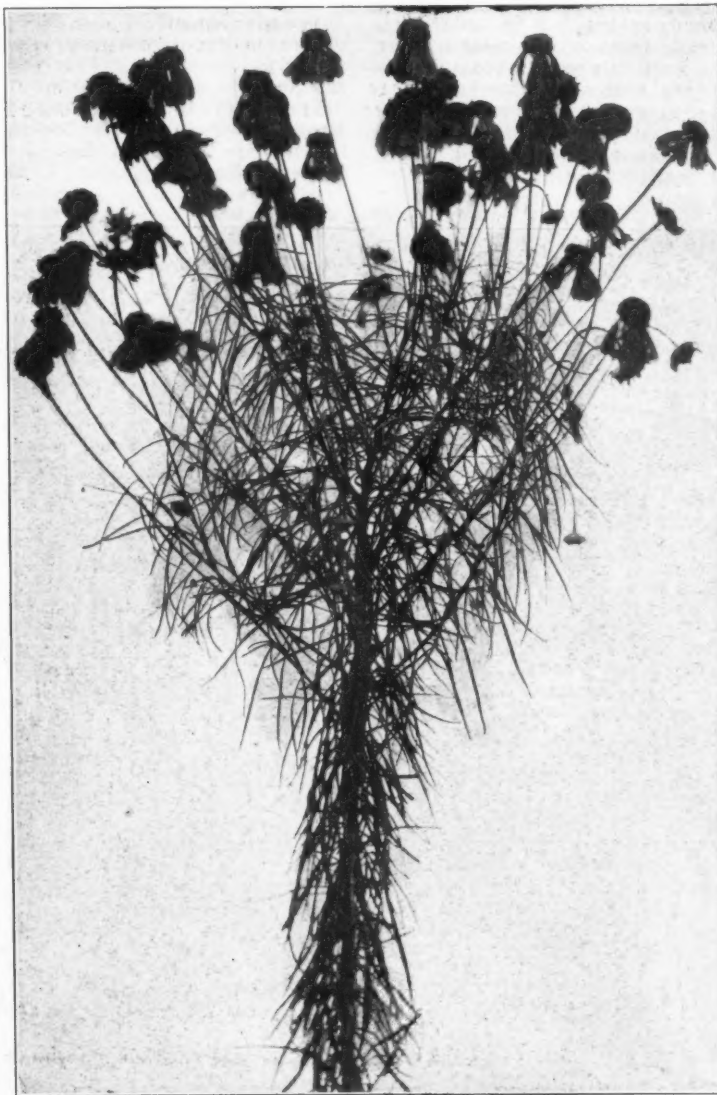
It might be said by some that I have a great number of apiaries irregularly scattered about at farm houses, and I have them cared for by the farmers, but this is not so. Each one of my apiaries is well established, and the man in charge of each branch and its yards makes it his sole business to look after them. My business has six branches or centrally located apiaries where I have packing houses and a home for my apiarist, who looks after his branch.

Names of branches in Georgia are: Home branch, Suwanoochee Creek branch, and Suwanee River branch. In Florida are the O'Brien branch, Branford branch and Fort White branch. There are 53 apiaries, consisting of over 3000 colonies. Following are the names of the apiaries: Home yard, Mussellewhite, Jones Creek, Colon, Atkins, O'Brien, Grassey Pond, McAlpin, Barnette, Jumbo, Mulberry, Landrum, Cowsink, Pinkham, Live Oak, Gilley, Mystery Coon, Herlong Valley, Wilson, Cox, Pond, Fort White, Columbia, Suwanee, Cypress Pond, Fargo, Tupelo, Pine Ridge,

Fouchton, McCain, Buck Creek, Costine, Clements, Odom, Jackson, Bryant, Williamson, Wray, Wells, Williams, Wheeler, River Lake, Alapaha, Pitts, Seville, Rebecca, Rochell, Sanders, Byron, Gleaton and King.

The Bitterweed

This honey plant made its appearance in the South about 50 years ago.



THE BITTERWEED OF THE SOUTH

This specimen is shown during latter part of its flowering. (See page 406 for early bloom.)

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offensive to the palate as quinine. In most sections in the South the cotton plant begins yielding two or three weeks before bitterweed, and if it were not for the well established fact that bees do not desert a honey plant for another as long as it yields well, nearly all the summer and fall honey would be unfit for market on account of the bitterweed. In sections where cotton does not yield much the honey is all bitter, and a small amount of it will ruin a tank of good honey. Bitterweed is also a great pollen plant, furnishing abundance of bright yellow pollen throughout its blooming period. Even the stems and foliage of this plant are intensely bitter and no animals eat it.

To give the reader an idea of how bitter it is, let me relate an incident that happened in my boyhood days, while we were traveling in Texas. We camped near a town one evening, and after supper my father went down and brought back a good home-cured ham to eat on our long journey to the next town. On the way back with it, swinging down in his hands, perchance some of these weeds touched it, and having no covering it came in direct contact with them. On the following day when we prepared some of it to eat, it was so very bitter that we could not use it. It was several years before we learned where the trouble lay.

Hive Making

The season is at a close, the bees are put up for winter, and the question of hive making for the coming season is in order. Where suitable lumber is obtainable, that is, lumber that will last and not warp too much, and time permits, almost any one can make hive bottoms and covers that will answer the purpose fairly well. But it takes a mechanic to make hive and super bodies, as there must be less than $\frac{1}{8}$ of an inch variation when put together, as the interior fixtures will not fit well, and at the same time allow the proper bee space. When it comes to the interior parts which are very complicated or irregularly cut out, it takes not only a mechanic, but a machine with suitable fine saws, cutter boards, etc.

For the benefit of those who may have a small light running wood-working machine suitable for this purpose, or for those who may contemplate buying one soon, I will illustrate by a cut how I cut out frames and section holders. I use as a pattern a regular factory-made frame, section holder, or any other part I wish to get out and do not change the dimensions at all. All the lumber used for this purpose is dressed two sides and sized to thirteen-sixteenths inch at the factory where I buy it, and it is usually narrow. The material for the longest parts I first cut up in proper lengths, then I dado the ends, and rip them out and cut the grooves for wedges last.

Valuation of Colonies and Apiaries

"I have 100 colonies of bees. If I should die what would they represent in money to my wife? If I wanted to

borrow some money at what could I value them? Description follows:

"One hundred colonies in 10-frame hives, wired on full sheets of foundation with worker comb.

"All hives are painted with one good coat of paint (cost of paint \$2.50 per gallon).

"One hundred and fifty comb honey supers painted as above, with inside fixtures.

"All of these hives and supers are as good as new; in fact, I bought 75 of them in April of this year.

"About half of the colonies have full blood Italian queens; the other half have from the common to three-eighths Italian.

"All the hives are of the Root factory make. It costs money to buy factory hives and put bees in them, and I want to know what I can safely value them at. I know that I could sacrifice them

at \$1.00 each, or that I could be making a lot with them and refuse to sell at \$20 each, but neither of these valuations would be correct.

"JOSEPH S. SCOTT.

"Mt. Pleasant, Ala."

ANSWER—The true value of bees when it comes to offering them for sale is hard to ascertain, for very few are sold at their true value. They are usually disposed of below cost.

Condition of the bees, hives, etc., have much to do with it. As yours are in first-class condition, and considering the cost of supplies at present, I believe their true value to be about \$7.35 per colony; that is, they are worth that much to a progressive apiarist.

As to borrowing money on bees or giving them as security, this would be hard to do. Banks would not make you a loan with them as a security and very few individuals would.

CALIFORNIA BEE-KEEPING

Conducted by J. E. PLEASANTS, Orange, Calif.

The National Meeting

We hope the National people will not forget California's invitation to meet here next year. We shall be glad to have them come to either San Francisco or San Diego, as suits their good pleasure. Our memories of the National meeting in Los Angeles are so pleasant that we wish they might hold a meeting in both places.

[We understand that the National directors have virtually decided to hold their February meeting in Denver.—EDITOR.]

Olive Honey—Other Plants

In regard to the question raised by the Italian beekeepers as to whether the bees gather nectar from the blossoms of the olive, it is the consensus of opinion among the beekeepers here that they do not. I have never noticed them gather anything except pollen. Since the question was asked, however, I have questioned a number of beekeepers about their observations of the olive, and they are all of the same opinion—that while bees get large supplies of pollen, they gather no nectar. We have large groves of olive trees here in the beekeeping district, so I think there can be no mistake.

A plant sent us by Dr. H. W. Smith, of Folsom, which he gathered in the Lake Tahoe region, at an altitude of 6000 feet, is evidently an epilobium or "great willow herb." The specimen reached us in bad condition, so it is impossible to be accurate. The Doctor says it is much visited by bees.

We have also run down the Tinker's weed or Tinker's root, but did not find any mention of it growing in Africa. However, the description may be of interest to our Natal beekeeper, and as

he wished a botanical description of the plant, we give a rather full description from the "Field Book of Wild Flowers."

"Tinker's weed (*Triosteum perfoliatum*).

"The fever root, so named from a Dr. Tinker, of New England. It has purgative and emetic properties. Also, erroneously, 'Tinker's root.'

"*Triosteum*—a genus of gamopetalous plants, of the order *Caprifoliaceae* and tribe *Lonicerae*. It is characterized by a tubular bell-shaped corolla gibbous at the base, and a three to five celled ovary with one ovule in each cell. There are about six species, native of Asia and the eastern and central United States. They are herbs with a perennial root, and little branched stems with scaly buds. The leaves are sessile, entire, opposite and somewhat connate at the base. The dull yellow, purple or whitish flowers are solitary, or clustered in the axils, or rarely condensed into short terminal spikes. The fruit is a coriaceous or fleshy berry, with smooth, bony, angled or ribbed seeds.

"*T. perfoliatum*, a rather coarse erect species with purplish flowers and orange colored berries, occurring from Canada to Alabama, is known as *fever root*, also as *horse gentian*, *Tinker's weed*, *wild ipsecac* and *wild coffee*. It produces a long, thick, yellowish or brownish root with a nauseous taste and odor, locally used as a cathartic and emetic. One other species, *T. angustifolium*, with yellowish flowers, occurs in the United States.

Dr. L. H. Pammel, State Botanist for Iowa, commenting on the willow herb mentioned previously in this article, says: "The specimen of plant from Dr. Smith, of California, is the fireweed or great willow herb (*Epilobium angustifolium*), known sometimes in the

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northwest as elk's weed. It is a well-known plant in the northern States, from the Atlantic to the Pacific, appearing in clearings, especially where a fire has been through the timber. Thousands of acres are covered with it in the Rockies, also in Washington, Oregon, Wisconsin and Minnesota. It is not, however, common in southern Wisconsin or northern Illinois, rare in Iowa. It is a leafy plant from 2 to 4 feet tall bearing numerous magenta colored flowers, followed later by slender pods with numerous seeds, each seed bearing a tuft of hairs. There is a common belief that the seeds of this plant remain buried in the soil for many years and after a fire spring up. The seeds are, however, carried by the wind to charred humus, where the plant delights to grow.

"A beekeeper in Washington a few years ago told me that it was one of the best honey plants in Washington. Where the plant grows should be a paradise for the beekeepers."

Eucalyptus Honey

As we promised to make some further observations on eucalyptus honey later in the season, we will give the Bee Journal the results, although they are quite meager. The sample sent was stored in empty combs placed in a colony in September when the sugar gum and iron bark were in bloom, and the bees were working very heavily on these two species. At this time there were only two species of wild plants in bloom—the dodder and the drouth weed. And as far as we could see the bees were not working on either of these to amount to anything, while they were like a swarm on the eucalyptus bloom. So it would look like the honey stored at that time was mostly eucalyptus at any rate. The only trouble was that we have not a large number of these trees—about 150—not a large grove. I have always

noticed, however, that the eucalyptus seems to secrete large quantities of nectar whenever in bloom.

The honey is light amber of heavy body, and has a decided but not unpleasant flavor.



FRAMES—AFTER WILDER

CANADIAN



BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Ontario Convention

The Ontario convention is again a thing of the past. I have just arrived home from attending it, and these notes are being hurriedly written, as the date is later than the copy is supposed to start. The attendance was not as large as last year, but up to expectations, as the poor season and other causes were expected to have an effect. It was commented on by all, that none of our friends from "over the line" were with us—the first time for a number of years. We are consoling ourselves with the thought that the convention of 1915 will have double the attendance from there compared with other years, and thus help even up.

Editor Dadant and his estimable wife passed through Toronto early Friday

morning on their way home from Montreal, but arrangements forbade them stopping. Fortunately, Mr. Hopper and myself learned of their coming, and had the pleasure of a few moments conversation and a hearty hand shake before the train pulled out for the West.

At a later date I hope to give notes of the convention proceedings. We had a good convention, although the season had been poor—very poor in most cases, yet nearly all the beekeepers seemed cheerful and happy, placing great expectations on the prospects for "next year."

Bees Generally in Good Shape

Up to date (Nov. 14) we have had a continuation of the fine weather spoken

of in our last notes. There has been a gradual cooling of the temperature, and from now on we can expect but a few days, if any, before flights are stopped for three or four months. Reports at the convention seemed to show that most colonies go into winter with plenty of stores, even if sugar was hard to obtain; this is especially true among beekeepers who make a specialty of the business. Wherever bees are fit to "take their chance," heavy losses may be expected in localities where the fall honey flow was a failure.

Every Farmer a Beekeeper?

Louis Scholl says in a recent issue of *Gleanings in Bee Culture*: "I have never called a farm complete without a few colonies of bees carefully kept in modern hives." Dr. Miller commenting on the same says: "I sympathize with that view, and yet it is more poetical than practical." After a number of years advocating as does Mr. Scholl, I am now thoroughly in accord with Dr. Miller's views. I might go a good deal further than he does. Why? Because I have found that it is an impossibility; it certainly is not a probability to have

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such conditions. Personal experience has taught me that not one farmer out of a dozen will keep bees and give them attention unless every year be a good one—even then many will neglect them. But let a few years like the present one come along nearly all will become disgusted with the bees, and in many cases they become a menace to other bees near, especially if disease is in the neighborhood. While not admitting that I am getting more selfish as I grow older, I certainly have dropped the slogan, "Encourage the farmers to keep bees."

Night Have Been Worse

While the past season was the worst that I have experienced here in York county, it was practically a total failure—yet after reading in the last issue of the American Bee Journal what our Editor and his staff had to contend with in the vicinity of Hamilton, Ill., we felt that it might have been worse with us. To be forced to feed in July, August and September is something we have never yet had to do, but our Illinois friend's experience shows that such a thing is a possibility.

loss was so great that it was estimated at \$20,000,000 for France alone, annually. The matter was referred to the famous Pasteur, the founder of practical bacteriology and discoverer of the cure of hydrophobia. Through his bacteriological studies, the corpuscles of "nosema bombycis" which produce the disease were discovered. Soon a remedy was suggested by him and, under the treatment indicated, establishments which had not been able to produce silk enough for the cost of the eggs were reaping large profits. The trouble arises from eggs laid by "corpusculous moths." In other words, if the mother moths which furnish the eggs for the next crop of silkworms are infected with the bacteria causing the malady, some of their eggs are unable to hatch or are sterile. Those which hatch are unhealthy, and the little worms die early instead of growing and spinning their silk cocoons. It proved necessary to inspect every female moth. This is done after the egg-laying.

First, the best cocoons are selected for reproduction. The heavy ones are females, the lighter ones males, so they are weighed on very sensitive scales so as to retain the proper number of each. After the hatching of the moths and

NOTES FROM ABROAD

By C. P. DADANT.

On the morning of Sept. 5, our kind old friend, Dr. Triaca, came after us at the hotel with an automobile. We were to spend the day with him at the Villa Visconti, some 15 miles from the city of Milan. Dr. Triaca had already taken upon himself the task of securing for us round-trip railroad tickets for our tour of Italy, so as to save us possible annoyance in making ourselves understood. We were much abashed at so much kindness. But when we remonstrated, he replied: "Would you not do the same for me, if I came to America? We are doing but our duty to our guests." It is a delightful thing to be so kindly treated, and by people whom one has never met before.

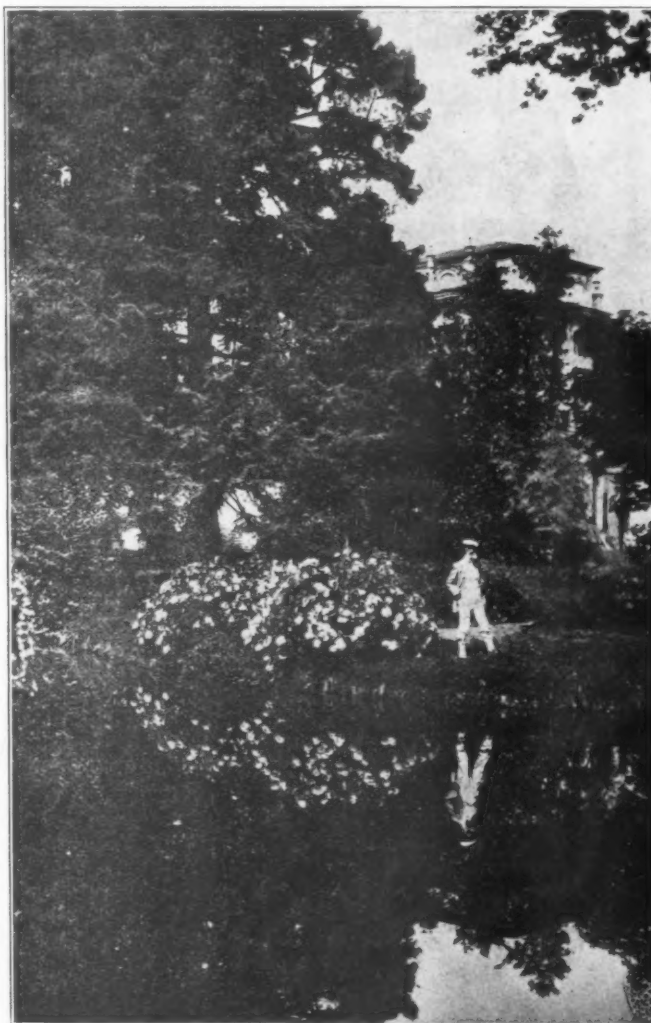
Dr. Triaca and Count Visconti are old friends and very intimate. They were in the Austrian war together and there Dr. Triaca was crippled for life. He wears a wooden leg.

The only counts we know of in America are the "no-count" counts who come here to marry millionaire heiresses as worthless as themselves. Take these out of your reckoning. The count whom we will have you visit today is one of those noblemen who are not only noble in their ancestry, but who are *noble men*, because their leisure is spent in useful pursuits.

We reached Cernusco-Sul-Naviglio towards 10 a.m. A mile or so from the village, we were met by Count Visconti riding a bicycle and dressed in spotless white, from his cap to his gaiters and his shoes. He made us take a direction from whence we could see his villa in its best appearance. (See cut.) We were looking for a country seat and not for a palace. Yet we could compare this immense home only to a corner of the palaces of Versailles, both in the magnificence of the decorations and the vastness of the rooms.

The daughter, and only child of Count Visconti, Mlle. Valentine Visconti, a lady versed in art, who speaks several languages, has, like her father, and even more than he, devoted herself to industry. They have interested themselves, for years, not only in bee culture, but in silkworms as well. The silkworm industry is the main resource of Lombardy. Silkworms are subject to diseases which play havoc among

them, just as fowlbrood does among bees. A number of years ago, a disease now known as "pebrine" began its ravages among the silkworms, throughout France and Italy, and destroyed them to such an extent that the silk industry threatened to disappear. The

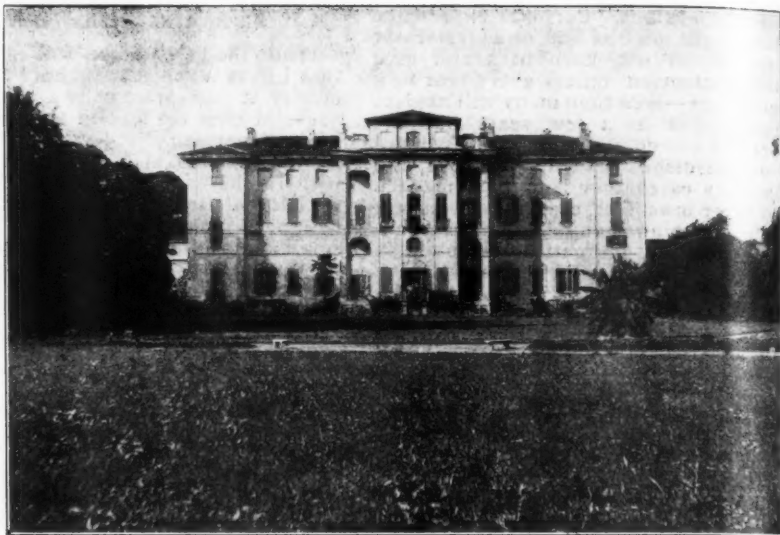


PARK AT VILLA VISCONTI

American Bee Journal



MONUMENT ON THE GARDEN WALL, VILLA VISCONTI



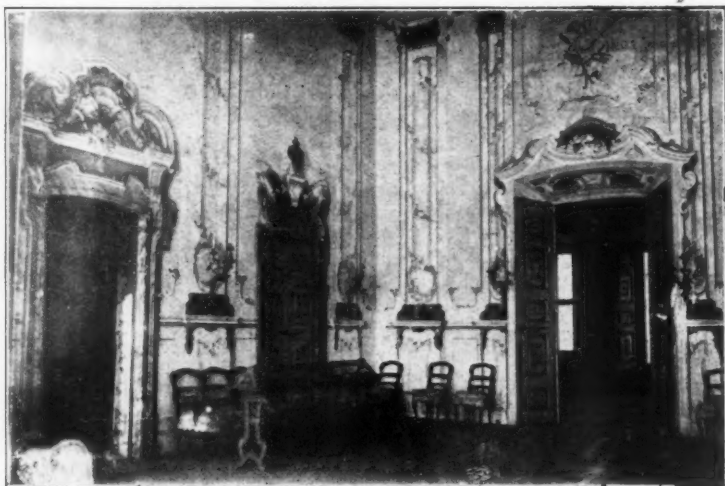
VILLA VISCONTI DI SALICETO, NEAR MILAN



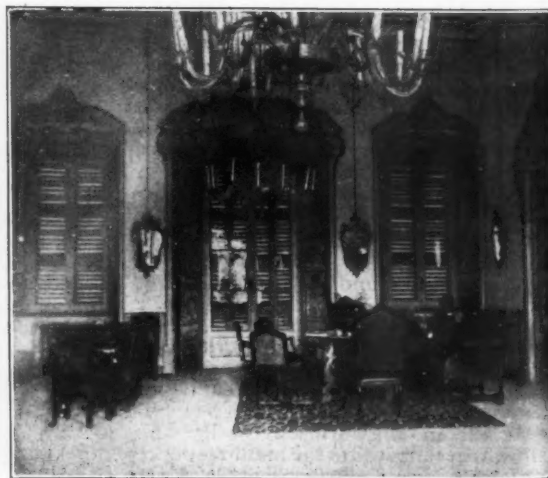
WEIGHING THE SILK COCOONS IN BULK



COUNT VISCONTI AND HIS DAUGHTER AMONG THEIR PEOPLE



CORNER OF THE PARLOR, VILLA VISCONTI



DINING ROOM, VILLA VISCONTI

American Bee Journal



IN THE SITTING ROOM



THE "CONTESSINA" VALENTINE AT HER DESK



ANOTHER CORNER, VILLA VISCONTI



A CORNER OF THE STUDIO, VILLA VISCONTI



WEIGHING THE COCOONS TO ASCERTAIN THE SEX

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the mating, the female moths are placed in paper sacks where they lay their eggs to the number of about 500 and die afterwards. To discover the diseased ones, each moth when dead must be crushed in water and a little of the liquid examined under the microscope. If the corpuscles of pebrine appear, the eggs of that moth are destroyed. Those eggs only are preserved which are produced by a healthy mother. In his way, it is possible, to rear silkworms that are healthy. The percentage of diseased moths is now very small.

But the peasants of Italy were uneducated, and it was out of the question for them to purchase microscopes and examine their broods. It became necessary for educated people to take the matter in hand. Devoted men and women, belonging to the higher classes of society, gave their help. Miss Valentine Visconti, countess though she be, was one of the generous persons who devoted themselves to this task. We give herewith a few pictures, which by the way were made by Count Visconti himself, as well as others which will appear later. In these pictures our readers will see the country people or "contadini" employed by the lady and her father weighing the silkworms or examining the moths under the microscope. We witnessed the performance ourselves that day and were told that the house produced some 1500 ounces of eggs, of which there are about 12,000 in an ounce. So a portion of this magnificent villa is devoted to an agricultural pursuit in which science must lead to secure success. Isn't it interesting?

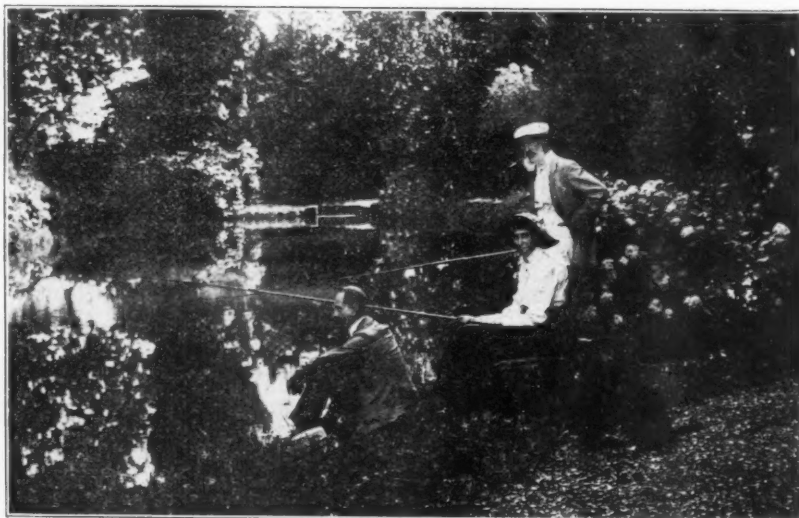
Count Visconti, who is 75 years young, seemed delighted to show us around. The villa has a beautiful park, with a stream, a water-wheel, a small lake, etc. The apiary is composed mainly of movable-frame hives of the Italian pattern, with tall narrow frames, looking very much on the outside like box hives. However, he has a few Dadant hives, and in one of the pictures he is represented as examining a comb. In another he is weighing a hive of bees, to ascertain the daily gain in weight.

The villa has an inner yard, a monumental stairway, ceilings between 20 and 30 feet in height, 3 stories, verandahs, with iron railings on all sides. There is a very large library with infolio Bibles on parchment, genealogies from the middle ages, Italian and French authors of past centuries and a copy of the great "Encyclopédie" of 1765, the only one which I have ever had the privilege to see. The immense rooms looked to us for all the world like those of the Trianons of Versailles, with similar arrangements of tables, chairs, mirrors, silver candelabra and wall and ceiling paintings, dating back several hundred years. We felt awfully little in such a place. But our entertainer was so very kind that we finally felt at home, especially after the cordial welcome extended to us by the lady of the house.

When we sat down at the table, in the spacious dining-room, Mr. Visconti said: "America is visiting Italy; there is no longer any ocean." He is a great joker and a merciless, open critic. We



COUNT VISCONTI EXAMINING THE BEES



FISHING IN THE LAKE OF VILLA VISCONTI

American Bee Journal



DAILY WEIGHING A COLONY AT NOON BY COUNT VISCONTI

talked of America, her rapid growth, her success and her hopeful future. He said: "I love everything American, except the men who put their feet on the table or spit on the floors." Perhaps he had read Dickens' American Notes. If Dickens were to come back to life and make the trip again, he would see a great improvement in America on this score. But we still have room for improvement.

When we left our friends that eve-

ning, with the expectation of taking the train for Venice the next morning, we agreed to meet them at Bologna on Sept. 8. In order that we might not miss each other, Dr. Triaca instructed us to call for them at the dining-room of the Bologna railroad station, where they would await us. Their train was to arrive a little earlier than ours. In that city was to be the finest of our bee visits. It will be the subject of the next letter.

CONTRIBUTED



ARTICLES~

Queen Etiquette—Some Comments on Introductions

BY ARTHUR C. MILLER.

THE American Bee Journal for October has several things to say about introducing queens, and Miss Wilson particularly emphasizes her failure with my method. (So far as I know now it is my own development, but some one may have preceded

me though I have found no record of it.)

Nothing is infallible, but a method which works most of the time is good for something. The new way is far ahead of the cage plan in percent of success, and when the short time the colony is queenless is considered, and the simplicity of the operation is taken into account, the plan is far ahead of any other way I know.

I have been at a loss to understand why some of the "experts" in bee cul-

ture have failed while many of the novices, as well as others more in the veteran class, have no trouble.

The method is so absurdly simple that it seems as if any one could understand it, and yet I fear that it is its very simplicity which bothers the veterans. They have for so long gone through so many motions to accomplish simple things that they cannot divest themselves of them. That they are influenced by past ideas and practices I will show by the following quotations. Mr. Byer says: "One colony was given a particularly hard smoking so as to be sure of results." He evidently thought he knew more about it than the originator who said, "Don't use much smoke." He got the "results" and just what I could have told him—failure.

Miss Wilson says: "It has been explained that the secret of success of the plan is that under cover of the smoke the queen immediately rushes through the outer wall of the bees into the center of the cluster where she is safe." Where on earth that came from I do not know. It certainly was not from my pen. There is no "outer wall" nor does the queen do any "rushing."

Mr. Hand says: "Two methods of odor transmission, the smoke method and the cage method, both of which were described in Doolittle's book on queen-rearing published more than a quarter of a century ago." The two methods referred to date back nearly 200 years by record, and how much before that I do not know. The smoke method as there described was often given in the press years before Mr. D.'s book was written, much on the subject following the publication of Simmins' "Direct Introduction" in 1882, which was seven years before Mr. D.'s book was published. Mr. Hand, I fear, is not up on the history of the art.

Coupled with the confusion caused by mixing old ideas or others' ideas with my instructions is also the difficulty some people have of following instructions. In the bee world I believe no small part of this is due to the carelessness of expression and use of terms found in the bee press, something which Dr. Miller has been combating for years, but to what purpose? Read this from the editorial page of the October American Bee Journal: "A reasonable amount of lower ventilation and a heavy cushion of absorbents preventing drafts but allowing the escape of moisture as does a woolen blanket over a man's body, etc. (my italics). Is comment necessary? Carelessness of expression begets a looseness of interpretation, and the habitual reader of such writing is prone to give his own views to the subject in hand and fail to get the author's no matter how carefully expressed.

If you are going to try a thing at all try it as the author gives it, and be sure you understand his method. Afterwards put on as many of your own frills as you choose, but don't reverse the order and blame the author for something he did not say.

Mr. Byer failed because he used too much smoke. Had he taken into account the effect of varying quantities and qualities of smoke on bees he

American Bee Journal

would probably not have made the error.

The cause of Miss Wilson's failure is not so obvious, but I am willing to venture the assertion that either she did not get the bees into a state of distress—choky smoke plus close confinement—or else the bees were in more or less of a disturbed condition from getting the old queen out. I say these things advisedly because I know that Dr. Miller's bees are "fighters" and his hives are not smoke tight.

Others, like Mr. Hand, confuse my method with the older smoke plan, and so fail to follow the newer details.

And right here for the benefit of those who fail with my way as they use it, or who fail with the old smoke plan, let me call to their attention a law of bee life known 150 or more years ago, and cited by Langstroth in 1853, that *twenty-four hours* after a queen is removed from a colony another may be run in with scarcely any precaution whatever, and her safe acceptance is assured.

Now let me make a suggestion to beekeepers in general, *study the behavior (actions) of the bees*. Moses Quinby was a marvel at it, and had his book instead of Langstroth's been spread as the latter's was, we would have seen a much more advanced state of commercial bee culture than now exists, and this is no reflection on Mr. Langstroth. Quinby was the father of commercial beekeeping. He did with box-hives all that many a big beekeeper accomplishes today with all the modern appliances. He was able to do much because he knew much, and furthermore he possessed a wonderful ability to analyze conditions and reason back from effect to cause. Also he was able to impart this information, and to some extent his skill to others.

Langstroth also knew much about the bee, but his book being primarily an exponent of his hive, led the readers away from a study of bee actions to appliances and manipulations, a condition which Mr. Langstroth would have been the last one to desire could

he have foreseen it. Let us study Quinby, re-read Langstroth, and then turn to the bee and see how much more we have to learn about her.

Providence, R. I.

["Carelessness of expression" as mentioned by our sarcastic contributor is indeed one of the things most combated by our experienced co-worker, Dr. Miller, and I owe him thanks for many criticisms which have helped me to overcome the difficulties of a language which is not my mother tongue. So upon reading the above satire, I at once referred the matter to him, for his opinion as to what was the nature of my error. He replies: "I have studied over the passage that A. C. M. cites, but cannot make out what he refers to." Is comment necessary?—EDITOR]

Glucose Again

BY DR. A. F. BONNEY.

I PICKED up an article in a daily paper regarding a book written by one "Doctor" Cutler, secretary of the American Manufacturers' Association of Products from Corn. He was formerly Dairy and Food Commissioner of Missouri, and it recalled to my mind recent attempts to advertise honey, and to show honey producers what we are up against when it comes to selling our goods. I quote from it:

The corn product people calmly assert that the book has "been accepted as a text," but neglects to state by whom, but probably by the author, "and the company is sending them out free to schools that ask for them. Already 100,000 copies have been distributed, and the Chicago office is kept busy sending them out."

Giving the reader a touch of chemistry, which is an unopened book to nine hundred and ninety-nine out of

every thousand persons, he says: "When some scientist, one of these days, discovers how to take the extra molecule of water out of corn sugar, that makes it differ from cane sugar, the beet and cane men no longer will need to fight each other over tariffs, for sugar will be very cheap. Every corn field will be the source of tons of sugar." Just two molecules of hydrogen and one of oxygen is all that lays between glucose and the ruin of the honey industry in the United States, for with sugar at 2 cents a pound the sale of honey would undoubtedly fall off.

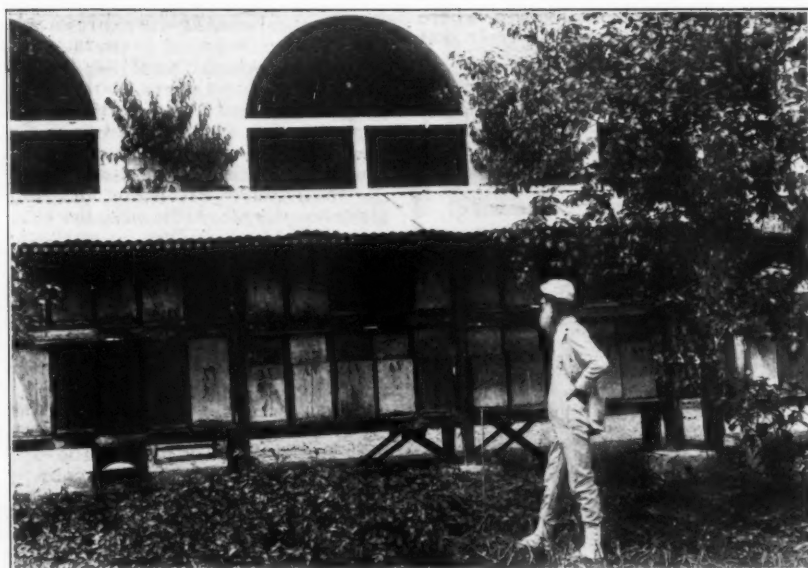
The article goes on: "I wonder if many persons realize that there was made in the United States last year 800,000,000 pounds of corn syrup." (Glucose.) "The book, 'Corn and Its Products,' reveals the great uses of the corn products. It is shown that 90 percent of the candy has glucose or corn syrup in it."

Eight hundred million pounds of glucose. Eight pounds for each man, woman and child in the United States. The "profits" on honey will, as a rule, represent merely pay for a man's time a few weeks in the year. The price of "corn syrup" was arbitrarily raised as soon as the United States Pure Food people allowed the manufacturers to mislabel "Glucose" "Corn Syrup." The profits are something that approaches highway robbery, and they can well afford to send out books.

This brings up the question again of advertising honey. Can a man who produces one, two or three hundred dollars worth of honey afford to spend even 5 percent of his income in advertising? Of course this is a small amount of honey, but there are, I am sure, more men in the United States who produce less than \$400 worth of honey than there are who get more. Dr. Miller once made a guess to the writer that there were but about 200 professional beekeepers in the country, and while it might be hard to find out just how many there are whose principal income is from honey, the fact remains that the annual consumption is about 25 cents worth per capita. It stands to reason that there is but little margin in this to send out books, and the worst about it is that for the most of the year there is little or no honey in sight. Honey should sell all the time as does sugar, but for some strange and unaccountable reason we are expected to get rid of our crop at once, leaving the field to glucose messes the rest of the year.

We cannot advertise all the time because we have not the honey all the time. The Karo Kusses have glucose all the time, and are increasing the demand all the time. If the books they send out cost 5 cents each, the 100,000 they mention represent an output of \$5000. They will no doubt send out \$50,000 worth before they quit. Karo sells for about 5 cents a pound, in cans, and that means about \$40,000,000. There are no crop failures, no bees to die, no several "grades" of the stuff, no short season for sales, and because of this they can afford to pay out a fraction of one percent to advertise their wares.

The writer has made a close study of advertising, and has decided that there



THE ITALIAN VERTICAL MOVABLE FRAME HIVES.—(Part of the Visconti apiary.)

is no rule in the art to apply to different beekeepers. One man produces a ton and sells it locally as best he can, another peddles, the next man trades with the local stores, some buy machine-made advertising leaflets, some use post cards. The great big producers depend upon the commission men, the bakeries, and an ad in the bee journals. Every man is a law unto himself, and I suppose it will always be so.

I believe in short, snappy ads, and because of it, and to reply to scores who write me, I am going to suggest that the bee journals put on the market little stickers, say 2 inches long and ½ inch wide, printed in full face, glaring red letters,

EAT HONEY

That is all. Let them be gummed. They can be sold, if orders justified printing them by the million, at from 30 to 50 cents a thousand. What! I get a fine "SHAKE THE BOTTLE" label, white letters on red ground at about 50 cents the single thousand. Let every beekeeper in the United States use 5000 to 10,000 of these, sticking them everywhere, and we can pretty nearly do a national advertising stunt. I am known as the "Eat Bonney Honey Man" for a hundred miles in all directions, but I'll take and use 10,000. Who is next? Don't all speak at once.

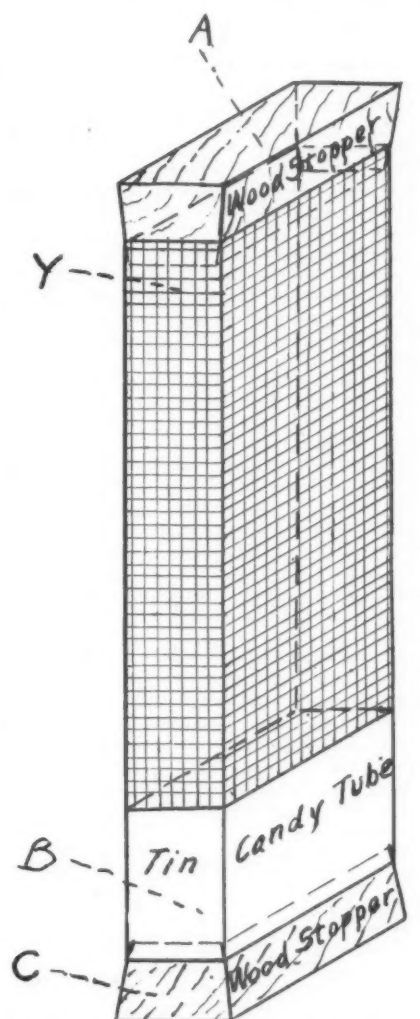
Buck Grove, Iowa.

[Dr. Bonney's suggestion is good. These labels can be furnished on gummed paper, printed in red, for 35 cents per thousand, postpaid. If our beekeeping friends desire to try them, we can easily supply them. Every one knows the value of advertising by keeping the name of the article constantly before the public.—EDITOR.]

A Few Statistics on Queen Superseding

BY DR. BRUENNICH.

THIS year, my eldest son, a very able beekeeper, and I have superseded by different methods, some 40 queens. The circumstances were exceedingly unfavorable, I dare say as unfavorable as possible. We had a wonderful April, with a crop of cherry-bloom honey, but May, June, July and even August were unusually rainy. My average crop, per colony, of extracted honey, was only 5 kilos (11 pounds), and in August the average supply of honey in the brood-chamber was 3.3 kilos. Thus and worse it was in all Switzerland this season. A great many colonies starved, and many have given no crop at all and have almost no supplies. So it is easy to understand that the humor of the bees was such as is perhaps unknown in America. This explains why relatively many queens have been killed or mutilated. Had I your circumstances of honey flow, perhaps I would not have lost a single



WIRE TUBE CAGE FOR QUEEN INTRODUCTION

queen. The odor theory alone can explain to me the ill success, as I will try to prove in the end of my article. As a general rule it is better to introduce a queen in July than in August, in June better than in July, and in May better than in June. The more brood the colony has the better we succeed.

I adopted the following methods:

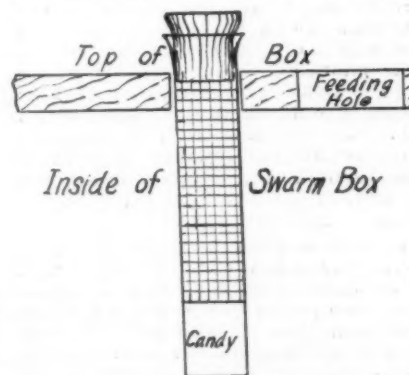
1. *The swarm method.* A, for superseding. The bees of the colony, dequeened, are shaken into a swarm-box. The brood-frames are given to other colonies for nursing. The swarm is fed, and after some hours I give, through a hole in the honey-board, a queen in a tube of wire-cloth closed above by a cork and below by a cylinder of candy. The swarm-box is placed in a quiet, dark room for 36 to 48 hours. Generally the swarm will build a little comb which the queen will fill with eggs, which is always a good sign. In the evening the swarm is shaken again in its hive where I have replaced the combs of the colony.

For feeding I use a simple cylindric honey tumbler, closed with cheese-cloth, double.

B, for establishing a colony. From different colonies I form a swarm in the swarm-box as above. The swarm is then shaken into a hive with comb foundation.

2. *The smoke method,* after Arthur C. Miller. As a rule, I let the queen fast for 20 to 30 minutes, for I believe that the success is surer.

3. *The cage method.* This is a method devised by my son and myself last year. We use a square tube or cage of wire-cloth, about 1½ inches wide, ½ inch thick, and 4½ inches long. One end consists of a 1½ inch tube filled with candy. Both ends are shut by a wood stopper. The figure will explain the little instrument. From the dequeened colony we pick a dozen or more bees from the alighting-board, by holding the cage at B with the right hand and the stopper A with the left hand and pushing the open cage along, on the board where the bees are congregated. Closing it from time to time, the bees will go towards the candy, when the operation may be repeated until we have enough. Then I plunge the end of the cage with the bees into water about a minute, agitating the cage. When the bees are wet enough one can easily get the queen into the cage and no bee will be aggressive. The cage with bees and queen is now put on the top-bars of the brood-frames, removing super combs if necessary. Late in the season we use an empty super over the brood-chamber. So the behavior of the bees toward the new queen can easily be observed. If there are many bees on the cage, and they are restless and angry, they have a tendency to ball the queen, which, of course, they are unable to do. If there is only a thin cover of quiet bees over the cage, the matter is all right. I leave the tube as long as seven days on the frames, and even up to ten days, but not longer, and then I examine all brood-combs minutely for queen-cells which I destroy. Should the behavior of the bees be kind, I run a match through the tube at Y, and hang the cage perpendicularly between two combs containing brood after having removed the wood stopper C. In about 90 percent of the cases there will be queen-cells; if there are none, it is always a good sign. Once I overlooked a queen-cell, but after a few days a



DR. BRUENNICH'S QUEEN CAGE

dead young queen was found on the alighting-board and all was well.

4. *The meal method* is a proceeding where the cage method is combined with the meal. I begin as in No. 3, but can release the queen earlier, perhaps after four days. I also adopted this method when I was not sure that the queen would be accepted. After

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the four days I take out all the frames, destroy all queen-cells and sprinkle meal successively upon bees and frames and shake the bees back into the hive. On one of the frames, without bees, I put the queen and continue the process.

5. The saltpeter method was employed by me in cases where I had to do with a very resistant colony. It is simple. I stupefy the whole colony, in the evening, with saltpeter fumes and simply insert the queen from above. This method is somewhat rigorous.

Now for the results on 41 colonies:

| Summary. | Accepted. | Killed. | Total. |
|-------------------------|-----------|---------|--------|
| 1. Swarm method..... | 7 | 3 | 10 |
| 2. Smoke method..... | 7 | 4 | 11 |
| 3. Cage method..... | 11 | 0 | 11 |
| 4. Meal method..... | 8 | 0 | 8 |
| 5. Saltpeter method.... | 1 | 0 | 1 |

Aside from this reckoning there was one colony, No. 23, on which every method failed as shown below.

We see that the smoke method has given the least favorable results, therefore I abandoned it and have not the intention to employ it again. I do not doubt that under favorable circumstances it is as good as any other method (not better), but if I wish to be sure, I shall employ the *cage method*.

I do not like the meal method because it gives so much dust. The swarm method is too complicated except for superseding.

What now are the conclusions of my experiences? I think they prove almost evidently the *smell theory*. It explains the excellent effect of my method with the wire cage; in so long a time as 7 to 10 days the queen has certainly acquired the odor of the colony and is no longer a stranger. But it explains as well the ill-success of the two other methods. There the bees are taken by surprise; they accept the foreign queen in the first moment, but woe to her if any disturbance arrives! A single robber in the hive excites the bees and makes them vigilant. They recognize the queen as a stranger; they ball her or she is stung, and will soon be dead or mutilated. I should like to ask a smell-theory adversary to explain the following experience which my son made some years ago: I had devised a new method of superseding, by daubing the queen with a weak watery extract of bees (without abdomens), to cover her own odor, and we had indeed generally good results, but not always because the odor of the bee extract vanishes, and by and by the personal odor of the queen comes forth again.

He had a glass hive which had a fertile queen and which he dequeened. In the evening he gave this colony, at once, two young queens daubed. They were well accepted and could be seen quietly marching on the comb on the following day. Curiously enough, the queens avoided meeting each other and were never on the same side of the comb. On the second day my son was curious to see whether the bees would still again accept their own queen, and he let her run in in the evening. Of course all three queens were marked distinctly and differently. The next day both foreign queens were dead and their own queen walked majestically on the comb. The bees had rec-

ognized their own queen, and I think certainly not at her dialect or visage, but at her *proper odor*.

May I give some details on the special case mentioned above? The colony No. 23 was extremely resistant. I dequeened it June 11, in the morning, and gave it a young queen with the smoke method. She was killed, and after having destroyed the cells I formed of the colony a swarm, June 28, to which I gave another queen. After some days the queen lay dead before the entrance. July 6, I stupefied the whole colony with saltpeter and gave another queen. July 7, I noticed that the colony was excited. I opened the hive and found the queen balled, but still healthy. As she was a valuable queen, I took her off at once and gave, with meal, an old queen 3 years old, knowing that old queens are generally easily accepted. July 13 the queen was balled and there were no eggs. I put her into a wire-cage, shook the whole colony into a swarm-box, which I plunged for half a minute completely into the lake and gave them the queen (a new method highly recommended in one of the last numbers of the *Munichner Bienenzeitung*). The swarm was put back into the hive. July 16 I saw that the queen had some paralyzed legs (stung?). July 17 she was lying on the alighting-board still living but very feeble. Nevertheless I gave them, with meal, another queen, the same day (this was the fifth queen), and fed them milk and syrup in the evening.

July 19, the queen was balled in the center of the entrance; she had a lame leg (stung). I shook again the whole colony, covering the bees with an abundant spray of water and gave the queen again. July 24, no eggs and no queen, colony quiet. I gave two frames with very young brood, and in the evening the colony was very restless. Now, do what you will, thought I! August 12 there was a young queen, but the season being so late I took her away and gave about two pounds of bees from other colonies, also a fertile young queen by the swarming process (the sixth queen). August 20 found no eggs, but larvae 4 to 6 days old, no queen. The colony was exceedingly restless while I was examining it; therefore, I thought they might accept a seventh queen. I shook the whole colony, sprayed the bees with water containing a little extract of lemon and put in another queen who had a lame leg, on a comb containing brood. She was not attacked, and was finally accepted and is still now in the hive where she has made nice brood. That is the history of an anarchist colony, isn't it?

Zug, Switzerland.

[With the above article Dr. Bruenich has sent us a detail of each introduction, with dates, etc. We did not insert this because it would have made the article too long, and it is very comprehensive anyhow. His statistics are very interesting. His trials are of value because the results are so carefully noted. But he is in error in think-

ing that we, in America, always have good honey weather.

The cage method which he gives is original and differs widely from the cage method used here. He inserts bees into the cage from the colony to which the queen is introduced. We leave the queen, without bees, in the introducing cage, relying on the bees to feed her, if there is no candy, and they always do, unless they are so destitute as to be unable to feed their brood. In times of scarcity it is thought indispensable to feed the colony to which a queen is being introduced. But we find 48 hours sufficient, in most cases, to acquaint the bees with their new queen. As Dr. Bruenich says, their behavior on the cage usually tells how they feel towards her. We release her either by letting the bees eat through the candy to her, or if there be no candy, by putting a chunk of honey in place of the stopper. It seems that the less a colony is disturbed after releasing the queen the less danger there is for her. "A single robber in the hive excites the bees." We have seen bees ball a queen several days after her introduction, owing to disturbances. Hand, in the October number, page 348, gives similar advice to that of our learned Swiss friend.

Imported queens, coming to us from Italy, with the strong and strange smell of heather honey, were much more difficult to introduce than our own queens. Likewise, a queen which has traveled for several days and is fatigued, is less apt to be accepted than a young laying queen taken from a nucleus in our own apiary and inserted at once in a neighboring colony. That is another reason why, aside from the advantage of knowing that we are breeding from our best honey producers, home-reared queens are the most satisfactory.—EDITOR.]

Long Idea Hive

BY J. E. CRANE.

I WAS much interested some time since in taking care of a good sized yard of old-fashioned hives with old style frames that I had supposed were long since discarded, as well as a solar wax extractor that I thought was going out of use.

Yet here I found in southeast Florida, in the yards of O. O. Poppleton, the "long idea hive," or was it called "the new idea hive" more than 40 years ago? I remember making and using some of them 45 years ago this last season. Instead of making the hive 2-story as now generally practiced, it is made to be used only as a 1-story hive, and some 3 feet long and just wide enough to take in a frame of any given size across the hive. His

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hives are made about 13 inches wide and 13 inches deep, and from 36 to 40 inches long, inside, and hold 20 or more frames of the size and shape of the old American style of frame, about 12 inches square, which, he says, is better than any other for this style of hive. I had supposed so deep a frame impracticable, as the depth would result in the killing of many bees in handling them; but as he has them constructed, I find they can be handled as fast and as safely as the ordinary Langstroth frame; indeed, I believe even faster.

The lower bar of the frame is set in a slot in the lower end of the end bars, and allowed to project $\frac{1}{4}$ inch beyond the end bars, so that in lowering the frame into the hive there is always a bee space between the lower corner of the frame and side of hive. A staple would answer the same purpose. Then the top bar is wide enough to come together, forming a closed frame on top, which keeps the bees from depositing propolis around the ends of the top bars and sticking them up. The comb is attached to the top bar near one edge, while the other edge of the top bar projects over the bee-space between the combs. Each top bar has two small slots cut in it, opening into the bee-space between the combs below. These slots are covered with narrow pieces of $\frac{1}{2}$ -inch boards.

His hives also have a shallow telescopic cover that protects the frames from the storms and the excessive heat of summer. An entrance 12 inches long by $\frac{1}{2}$ inch deep in the bottom of the brood-chamber midway from each end gives the bees all the ventilation they receive. A loose-fitting following board to hang at the side of the frames completes the hive. I should have stated that staples near the bottom of the frames keep them the proper distance apart, at their lower end.

Now for the working of this hive. The brood is kept near the center of the hive, close to the entrance, while the end combs are for surplus honey. He uses no queen excluders in them, for he believes the more room the queen has to lay in, and the more brood she produces, the larger the force to gather honey.

In opening these hives you have to lift the cover and then lift one or two of the narrow boards that cover the slots in the frames. Then it is easy to ascertain the strength of the colony. A little smoke through these slots in the frames drives the bees down into good behavior, with much less danger of being stung than where the spaces between the frames are all open. It is easy to move the frames aside, as the top bars come together, and there is no propolis at the end to hold them. Usually one or two frames are left out at one or both ends, and a division-board placed beside the comb, so any given frame can be removed from these hives about as quickly as from a hive of Langstroth frames, and far quicker and easier than from those containing Hoffman frames. The surplus is stored at each end of the hive.

In extracting, Mr. Poppleton only extracts from one end at a time, so that if the supply should suddenly cease

the bees would not be short of stores. In the climate of Florida, combs must be stored on the hives to keep the wax moth from destroying them, and one of the great advantages of this hive is that you can readily get into the brood-nest at all times without removing a heavy super. I found in looking over such a yard with most of the surplus combs in, I could do it nearly as rapidly as I could 1-story Langstroth hives, much to my surprise.

Another advantage of these solid top bars is that in getting surplus comb honey the small slots, while large enough to let bees work through freely, would very largely prevent the so-called travel stain; but Mr. Poppleton takes his crop almost wholly by extracting. The idea of a solar wax extractor is original with Mr. Poppleton.

The climate of Florida is especially adapted to this apparatus for rendering wax; their January being about as warm as our northern June. While a solar wax extractor even in Florida does not remove all the wax from old combs, yet it is exceedingly useful to throw in pieces of comb or wax that are too small or of too little value to pay to melt with water by itself, yet can be saved in this way that would otherwise be destroyed by moths. But

its greatest value comes as a combined wax extractor and capping melter. Mr. Poppleton tells me it is surprising the large amount of honey that remains among the cappings after all has drained out that will do so. He has sometimes secured a barrel of honey, through his solar wax extractors, from his cappings, which sold at same price as that from the honey extractor.

I have not written the above expecting these ideas will be adopted by others, but rather to show how one may use hives and apparatus very different from what we are accustomed to think the best, and succeed quite as well as we do, and perhaps even better than we would with our own hives and fixtures. It is also to show that to succeed and secure the best results one must think for himself and not follow blindly the lead of others, but adapt himself to circumstances and conditions with which he is surrounded.

Mr. Poppleton's hive and system of management are well adapted to the southern States, where extracted honey is produced, and would prove successful for this purpose as far north as the Ohio river by removing the surplus combs in winter and enclosing the brood combs within close-fitting division-boards.

Middlebury, Vt.

DR. MILLER'S



ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Reason for Poor Yield from One Colony

I have 5 colonies of bees. Four colonies did well; 3 got 2 supers filled and one 3 supers. We have one that filled the brood-chamber but never started in the super. It is a colony from last year. What can be the matter with it? MINNESOTA.

ANSWER.—Without knowing more about it it is hard even to make a guess. If it had the same chance as the others in every respect, the likelihood is that it had a poorer queen.

Bees Specking Clothes and Bothering Neighbors

1. Will bees speck clothes after they have had their cleansing flight in the spring; if so under what conditions?
2. Will a high board fence prevent bees from bothering neighbors?
3. How far will bees go from the hives in spring and speck clothes? IOWA.

ANSWERS.—Sometimes they will do so after having been confined to the hive for several days, but never to the same extent as in the general cleansing flight in spring.

2. It will help, and may prevent it entirely, something depending upon the lay of the land.

3. I don't know. Most of the bees empty themselves close to the hives, so that clothes within a rod would be badly soiled. As nearly as I can recall, I should say it would not be a tenth as bad 5 rods away, with little trouble 10 rods away, while a very few bees might fly 15 or 20 rods away before discharging their feces.

The clipping you enclose, saying that bees "soiled washings and destroyed fruit

every day in the year that they were out" is absurd. Even if bees were bad enough, it is absurd to think of fruit being on hand from March to November, or of washings being hung out every day of the week. The truth is that only once in the year is there any serious trouble with clothes hung out, and bees never break the skin of sound fruit, only emptying out what birds or wasps have first bitten, and which would spoil anyway.

A Good Breeder—Requeening in the South

1. What are the qualifications of a breeder in regard to age, size, color, number of eggs laid in certain specified time, etc.? Is there any standard?
2. In testing, how long should I hold the watch on her to figure out a correct test?
3. During the laying season, does she lay both day and night?
4. Here in the South, where we have to breed up for two or three flows each season, and you only have to breed up for one flow, should we not requeen each season? TENNESSEE.

ANSWERS.—1. I don't remember that I ever heard of any standard. So far as I know every one has his own standard. The chief thing is that the worker progeny of the queen should excel as storers. This, you will see, cannot be set down as so many pounds exactly, for seasons vary, and 200 pounds might be no better one season than 20 in another. The only thing you can do is to compare her work with that of others in the same place. You can hardly tell what a queen will do until she is a full year old, and not always then. Size does not cut much

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figure; a very small queen sometimes lays more than the average. Neither is the most prolific queen always the best.

2. I don't know; I never heard of testing a queen in that way. Even if you had a certain time given, it would have to vary according to time of year. In the height of laying she should hardly fall short of 2500 eggs in 24 hours; at least that would be my guess. She might double it.

3. Yes.

4. Queens keep laying here throughout the season from early spring until fall. They hardly do any more with you. If you want my own personal view in the matter, I would let the bees do their own superseding whether there were five flows or only one; only I would supersede any queen that was not satisfactory.

A Beginner's Questions

1. I am planning on keeping bees in the spring. I have decided on 3-banded Italians. What do you think of them?

2. I am thinking of starting with two or three colonies, run them for comb honey until I get started, then change to extracted honey by using the 4x5 inch section, so that when I make the change I can use the same supers by putting in shallow frames instead of sections. Do you think this a good plan, or do you think it would pay to purchase an extractor and outfit for only four or five colonies?

3. Which will be cheaper and easier to run for, comb or extracted honey? I only have a few hours per day to work with bees.

4. What do you think of the 10-frame "cypress" hives? Are they as good as white pine?

5. Which super is best for extracting, the deep or shallow?

6. Would you advise me to paint the hives?

7. What hive is best, the dovetailed or chaff double walled?

8. What make of extractor do you recommend?

9. How many yards and colonies have you at present?

10. How much honey did you produce this season, and what method did you use?

IOWA.

ANSWERS.—1. All right.

2. It is generally considered that it requires more skill to produce comb honey than extracted, so it seems hardly advisable to begin with comb unless you expect to continue it. If you expect to extract later, better have all the experience in that line you can have from the start. Even if you should not extract enough the first season to pay for an extractor, it will be all right for another season. So I should advise that you begin with the extractor.

3. Most likely extracted.

4. Probably they are as good; some say they are more durable.

5. The shallow.

6. I don't believe it is best for me; but the majority think it better. Painted hives look better and last longer; but I think unpainted are better for the bees.

7. What is best for one is not always best for another. For the majority the plain dovetailed is preferable.

8. Something depends upon size of apiary and other things. I haven't had enough experience to advise.

9. One hundred colonies in one yard.

10. I don't know how much; likely in the neighborhood of 70 pounds per colony. The entire method would take quite a book to describe; you will find it in "Fifty Years Among the Bees."

Dry Sugar in Miller Feeder

1. How much dry sugar and how much water would be necessary to make 10 pounds of food in accordance with your suggestion on page 312, at the foot of third column (dry sugar in Miller feeder)?

2. Would October be too late to feed that way?

CONNECTICUT.

ANSWERS.—1. I think it will not be far out of the way to estimate that $2\frac{1}{2}$ parts of sugar to one part water (either pints or pounds) will make a syrup about the strength of honey. If that be correct, then 7 1-7 pounds of sugar and 2 6-7 pounds of water would make 10 pounds of syrup. But it would not be practicable to feed in the manner to which you refer, and put in at one time the exact amounts. On page 312, I referred lightly to the plan without going into particulars. I said, "I'd set a Miller feeder on a hive, pour into it dry sugar and then put in water." Going into particulars, suppose I wanted to give a certain amount of sugar to a colony; I would put that amount, dry, into the feeder; and then I would pour water upon it. No need to be particular about the amount of water; if a large amount of sugar were in the feeder, there would perhaps not be room for a great deal of water, and so there might be less water than sugar. If plenty of room in the feeder, then more water than sugar would be given, perhaps 2, 3, 5, or more times as much water as sugar. In any case, whether little or much water, I'd look in a day or two, when likely I would find that the bees had taken

all that was thin enough, and if some wet sugar that they couldn't take was still left in the feeder, I'd pour on it an indefinite amount of water, and this I would continue until all was dissolved and taken. It might take only a day if enough water were given first time, and if only a small proportion of water were given it might need replenishing several times and take several days. Now suppose I wanted to give 10 pounds of sugar and 4 pounds of water, making 14 pounds of feed, and should give it all at once. The bees would begin promptly on the sweetened water that drained through, and before all the sugar had dissolved they would have all the liquid sucked up, leaving wet sugar still in the feeder. So you see that wouldn't work. The idea of the whole thing, and the beauty of it, is that you don't need to be particular about the amount of water, but add successively so long as needed.

2. Yes, August, or first half of September would be late enough. In October syrup of full strength should be dissolved before put in the feeder.

Drones—Placing Super

1. Please tell me what to do and how to get a virgin queen mated after all drones have been killed by the bees?

2. Could I induce the bees to rear drones? I have lost two colonies by not having any drones. I know I should have ordered a queen, but at the time I could not.

3. If I cut out the patches of drone-comb and fill in with worker-comb, would the bees tear it down and draw drone-comb?

4. I am running for section honey, would it be advisable to put a super under the brood-chamber? They have a tendency to work down, and it looks to me like it would work. Would I have to put on an excluder?

MISSISSIPPI.

ANSWERS.—1. I don't believe you can do it.

2. I don't believe there is one chance in fifty that you could get bees to rear drones after they have killed them off in the fall. But it should be added that although I don't believe you can get queens mated after drones are killed off, yet all drones are not always killed off as early as you might suppose; and even after you no longer see any there might be a few left by which virgins might be mated.

3. No.

4. You would need an excluder to keep the queen from going down, and even with an excluder the sections would be so dark that you had better not try it.

Size of Standard Frame—Transferring

1. What are the dimensions of the 10-frame standard hive?

2. Which is best, to transfer bees from old hives after or before they swarm?

MISSOURI.

ANSWERS.—1. The Langstroth frame, which may be called the standard, is $17\frac{1}{8}$ inches long and $9\frac{1}{8}$ deep, outside measure. To contain 10 such frames and a dummy, a hive should be $18\frac{1}{8}$ inches long, $14\frac{1}{8}$ inches wide, and 10 inches deep, inside measure. Many hives are made narrower, no room being allowed for a dummy, but I think the tendency is toward the wider hive.

2. More and more the preference seems to be for transferring after swarming.

Swarm of Yellow Wild Bees

I have a large swarm of yellow wild bees would it pay to requeen with a pure Italian queen, or would it be better to get a swarm of Italians? Would they be worth \$12?

MICHIGAN.

ANSWER.—If a colony in my apiary should swarm, and the swarm should lodge in a hollow tree, the bees would then be called wild bees. If I should get them out of the



THEO. GEHARD'S APIARY AT BUNKER HILL, ILL.

American Bee Journal

tree and put them in a hive, they would then be called tame. So you see that wild and tame bees are really all the same thing. If the workers have three yellow bands, they are Italians, wild or tame. If they are of good stock it will not pay to requeen, unless with better stock. I don't know whether it will pay you or not to get a colony of Italians; hardly, if you already have good Italians, unless you are anxious to increase your number immediately. Whether an Italian colony is worth \$12 depends upon a good many things. It may be worth twice that under some circumstances, and half that under others.

Trying a New Thing—Diseased Colonies—Sugar-Fed Honey—Second Mating—Uniting

1. How would it do to supply the combs with water and flour in the early spring?
2. My bees had pickled or scab brood in one colony or the other all summer. Will they be very likely to have it next spring; if so, what treatment would you recommend?
3. If I feed sugar syrup and the bees store it in the combs so as to get it mixed in with the honey, might it be sold for pure honey?
4. Last May I purchased a queen with a one-frame nucleus. The workers and drones were pure; but the longer I had them the darker they seemed to get. The queens I reared from her seemed to be very pure, also the drones. Do you think she mated again?
5. I am going to winter my bees outdoors, simply putting an enamel cloth over the frames. Would you advise cutting a hole in the cloth to allow the moisture to escape? Will these cloths be all right? ILLINOIS.

ANSWERS.—1. The fact that it is not generally practiced is pretty good proof that it is not satisfactory. You are not likely to do any harm by putting water in combs, but if you mix flour with it there may be trouble in getting it out again.

2. They are not certain to have it next year because they had it this year, but if exactly the same conditions are repeated the trouble is likely to reappear. Do all you can to have strong colonies, with everything in best condition.

3. Any mixture of sugar syrup in honey bars it out from being sold as pure honey.

4. There are reports of queens mating a second time, but it is a rare occurrence.

5. A hole, or a number of holes, would probably be better, and there should be 3 to 6 inches of loose material as packing on top. Try at least one colony with burlap or other pervious material instead of enameled cloth.

Swarm Prevention

See article on page 310 of the American Bee Journal on "Controlling Swarming." The author says that he produces a new colony with just one frame "of brood in several stages" and the honey-gathering bees. I should imagine that the frame ought also to contain eggs, or how could a queen be produced?

The point I have in mind, is that I once asked you how it would be to control swarming by taking from a colony every frame having a queen-cell (no bees) and distributing a frame of comb or foundation. You answered that such practice probably would destroy the colony or weaken it enough so as not to become a surplus producer, but does not C. F. Greening, by his way, leave as the basis for a new colony much less than would be left by taking away only such frames as bees would make queenless on?

And is there not more depletion than by my suggestion in the ordinary shook swarming, when the bees have at most only one frame of brood and the rest all foundation?

As to my suggestion or notion, it would seem theoretically possible to deprive bees of the minimum, whereby just that is taken from them and just so much empty space given to induce desistance from swarming. Then practice to approach the theory as near as possible.

Aside of this—in giving a queenless colony a frame with queen-cell—may an uncapped one not be better than even a "ripe

one on the following line of argument: Experience seems with me to recommend the practice of putting into the hive-body to hold a swarm a frame with uncapped brood. I read that the bees "never" desert such. If a swarm of bees is so well held by uncapped brood, will analogously an uncapped queen-cell elicits more sympathy from the queenless bees than a sealed one? As good mothers like to take care of their babes, so bees might best like to "have a hand" in the rearing of their queen—to be? An uncapped queen-cell may also involve a suggestion ahead of a frame with eggs only, and so be better than either the latter or a sealed queen-cell.

SUBSCRIBER.

ANSWER.—Replying to your first question, as to how a queen could be produced from brood in several stages without eggs, it may be said that eggs are not at all necessary, since queenless bees seldom if ever start a queen from the egg, but from a larva less than three days old—usually, I think, less than two days old.

To your second question, whether C. F. Greening (page 311, September number, where he forms a colony from one frame of brood and the field bees of a strong colony) does not have a weaker colony than you would have "by taking away from a colony every frame having a queen-cell," I answer yes.

To your further question whether a shaken swarm is not weaker than said colony having its brood with queen-cells taken from it, I again answer yes.

The gist of the whole matter, however, lies in the implied question as to how I reconcile that with the answer you say I made formerly, that taking away from a colony every frame having a queen-cell would probably destroy the colony or weaken it beyond producing surplus. I don't reconcile it—can't. The statement attributed to me is nonsense. You do not say where that answer is to be found; but I cannot imagine how I could have made such an answer, for I have been a teetotaler all my life. I really wonder if I made exactly that answer to exactly that question.

Your theory that just enough depletion should be used as would prevent swarming is excellent. In actual practice it is hard to carry out. Colonies differ; seasons differ. I have known the removal of two frames of brood to make a colony give up the notion of swarming, and I have known the removal of nearly all to have no apparent effect. Breeding persistently from stock least given to swarming may help out.

I don't know for certain, but I have doubts that bees will be better held by uncapped than by capped brood. I have known bees to remain faithfully clustered on a piece of sealed brood at the hive-entrance in a pelting rain; I never knew them so faithful to unsealed brood. Many a time I have known them to empty out unsealed queen-cells when sealed queen-cells were left undisturbed. At any rate, I don't see the bearing in the present case. What we are after is not to keep the bees from absconding, but from swarming, which is a very different thing. And the presence of a queen cell, either sealed or unsealed, whatever it might do toward keeping a colony from deserting its hive, would in many cases be the very thing to make it swarm.

How to Prove Section Honey is Pure?—Watery Looking Honey

1. Some dealers tell me that I have been feeding my bees sugar syrup. Others ask me if it is machine made. I would like to be able to prove that my nice white comb honey is pure honey produced by the bees, but as I am not very well posted on

honey yet, I do not know just what what to say. I have heard it said that somebody somewhere offered \$1000 for a pound of machine-made honey. Who was this man, and is the offer still good, and has he got the \$1000 yet? The trouble is that many persons believe that clean white combs without stains are machine made, that pure amber honey is colored, and if it is clear and white it must be nothing but sugar and water.

2. What is the cause and remedy of comb honey having a water soaked appearance? The cappings lie right on the honey. The honey tastes about the same as any other, but it does not look as good as where the capping is pure white. I have a colony that produced over 100 pounds more this season than any of the others, but a good many of the sections had this watery look.

3. I am using the 4x5x1½ sections, but in order to get a heavier section when filled, I have been thinking about changing to the 4x5x1¼. Do you think this advisable? My 1½ sections weigh 13 and 14 ounces, including the wood. I would like to have them weigh at least 15 ounces net, as people expect a pound package when buying. Which is the most used by beekeepers through this country, the 4x5x1¼ or the 4x5x1½?

WASHINGTON.

ANSWERS.—1. An argument that I think was first advanced by C. P. Dadant ought to be enough to convince any one with sufficient reason that section honey is not machine made. Take any two sections of honey and place them side by side. If machine made they would be exactly alike, whereas there will be no difficulty in pointing out differences that will knock out all idea that they are made in the same mold, and establish clearly that each section is an individual job, worked out by the bees. Pop-holes in one will be clearly different from those in another, and variations of cells will be evident. You may also show a section just as it is when you give it to the bees, and that will be convincing to most men that the bees do the rest.

The offer of \$1000 for a section of honey made without the aid of bees was first made by The A. I. Root Company, and is still good, with many thousands of dollars back of it. No one has yet captured the reward. The same offer has also been made by the National Beekeepers' Association.

2. You have answered the question yourself, when you say, "The cappings lie right on the honey." In other words, the bees fill the honey right up to the capping, leaving no air-space between the capping and the honey. The remedy is to change the queen, or else use the colony for extracted honey. Any section may also acquire the same appearance after it is taken from the hive, no matter how white the bees made it, if it is put in a damp place. Honey is deliquescent, attracting moisture from damp air, and should be kept in a warm, dry place. Where salt will keep dry is likely a good place to keep honey.

3. You may as well put it down first as last that you can find no size of section that will always weigh exactly the same when filled with honey. No, nor anywhere near the same. The weight will vary in different seasons, at different times in the same season, and with different colonies at the same time. I venture the guess that your colony that made watery sections made at the same time heavier sections than other colonies. In my crop of 1914, I found whole cases in which the average weight of a section in one case was more than two ounces above that in another, and I think two individual sections might have been found with a difference in weight of six ounces. You can be just as honest selling sections weighing ten ounces as you can selling those that weigh a pound or more. Only

American Bee Journal

be honest about what it does weigh. The new interstate law requires that each section have stamped upon it the minimum weight of the honey actually contained in it, not counting in the weight of the wood in the section, which weighs about an ounce. If you can stamp yours as containing nothing less than 12½ ounces each you will be doing wonderfully well.

I don't know whether the majority of the 4x5 sections are 1½ or 1¾. The great majority of sections, I think, are 1¼x4¼x1¾.

Rearing Brood Without Excluders

1. Many of your large bee-keepers rear brood into the upper stories in order to make the bees take to the supers, and some work without using queen-excluders. Do they not find the pollen very troublesome in

the combs? I have tried both methods, but find the pollen a nuisance when uncapping as it clogs the knife.

2. Does C. F. Greening (page 310, September number) use a queen-excluder when practicing his non-swarming system?

ENGLAND.

ANSWERS.—1. Generally there is no need to put brood in the surplus apartment, empty comb being sufficient attraction for the bees. But if brood should be put in the super it would be quite important to use a queen-excluder. As to pollen troubling the knife, it will hardly do so unless combs are quite irregular, so that you have to cut deep in places, for I think cells are never entirely filled with pollen, an empty space being left which may be filled with honey.

2. No. He will be glad to have you write him direct concerning his system.

ber, from white asters and goldenrod. As the weather was very hot and rather dry during the last flow, white aster honey of good quality and consistency, and bees ought to winter well on it.

In wintering bees on the summer stands with some kind of packing over the cluster of bees, I experienced repeatedly how important it is to give top ventilation. If there is not top ventilation the packing over the cluster, which should serve to keep the bees warm, will accumulate a great amount of moisture and may prove fatal to the bees. A slight ventilation on top will dispel all moisture and the bees will remain dry and warm.

Bees need fresh air as well as a human being, and if the packing contracts moisture it shows a deficiency in the proper ventilation. The top board must be raised just enough to allow the moisture to escape.

Spencer Co., Indiana. SUBSCRIBER.

Yellow Sweet Clover

All beekeepers are aware of the honey producing qualities of white blossomed sweet clover, which is due to the fact that it starts to blossom about July 1, when the white clover is waning, and keeps on blossoming continually until late in the fall. In consequence of its long tap root, which draws moisture from a considerable depth, nectar is secreted in the flowers during the dry period of the summer months when clovers have practically ceased blooming.

Few beekeepers appreciate the value of the yellow blossomed sweet clover as a source of honey production. It is different from most other clovers in that it will germinate and grow about equally as well one season as another. It germinates early in the spring when there is plenty of moisture, and its long tap root prevents its being affected by any dry periods during its growth. The yellow variety begins blossoming about June 1, and continues until about July 10. In localities where both varieties are grown, the bees are afforded a continuous flow of honey from early spring until late fall, and this flow is very slightly affected by dry weather conditions, which so often prove disastrous.

W. M. BUDLONG.

Rockford, Ill.

BULK COMB HONEY FOR SALE—We have some very excellent horsemint honey, light amber in color, put up in attractive styles. If you have never tried bulk comb either yourself or to sell, send for a trial shipment. You will be well pleased. Our prices are as follows, f. o. b. Goliad:

6 lb. cans (10 to a case) 10 cents a pound
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Classified Department

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PHELPS' Golden Italian Queens will please you.

BEEES AND QUEENS from my New Jersey apiary.
J. H. M. Cook,
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FOR SALE—Choice Golden Queens that produce Golden bees equal to any.
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PURE TUNISIAN QUEENS, tested, \$1.00; 2-lb. bees with tested queen, \$4.00. Safe arrival guaranteed.
Lenoel, Nabeul, Tunis.

GOLDEN all-over Queens. Untested, \$1.00. Tested, \$3.00. Breeders, \$5.00 and \$10.
Robert Ingham, Sycamore, Pa.

REPORTS AND EXPERIENCES

A Kentucky Letter

We have had a dry season this year, but a bumper honey crop, which resulted largely from the copious rains of April. I harvested some 75 pounds per colony of No. 1 chunk and extracted honey from basswood, berries, persimmon and other wild bloom—clover being a failure.

Bees are still storing from the fall flow at this date, Oct. 15. Almost all colonies have already stored enough for winter. We have a good market for our honey. I dispose of what I produce at 18 and 20 cents per pound.

I have been keeping bees the past 10 years, and have found nothing that will beat the single-wall hive with winter cases, with a 2-inch space between hive and case, packed tightly with forest leaves, and absorbents above the brood-nest.

Gimlet, Ky. FREDERICK MANK.

Honey High in Stores

The honey crop was pretty fair in Carson Valley, Nev., and the quality good, white and sweet clover. The market is dull and prices low here in California. I bought two little glass jars of honey in two different stores, and I had to pay 25 cents for each. It was not a No. 1 grade of honey. How does this compare with other things? I said to a friend, why don't you eat honey, it is healthful? Don't the children like it? He answered, "Yes, I know it is healthful, and the children like it so well that they eat so much of it I cannot afford to buy it because honey is so high."

HENRY VORWERK.
San Francisco, Calif., Oct. 25.

Will Have to Feed

The past summer some colonies did not gather 10 pounds of honey, some 24, and some hardly enough to keep them, and I will be obliged to feed when the weather gets cooler, I think. There are very few bees kept around here. There are several patches of alfalfa, and a great deal of alsike is grown for hay, and plenty of sweet clover on the roadside not far from here. Bees should do well.

AUSTIN POWERS.
Sterling, Ill., Oct. 15.

Caucasian Bees

I was interested in what was said in regard to the color of Caucasian bees. I have succeeded in getting a few queens over from the Caucasus, that were a dark bronze themselves without any gold or coppery threads, and their worker progeny was a steel gray; then some that I imported showed coppery yellow threads around the body, and invariably their worker progeny would show about one-tenth of one percent of bees that would have one or two yellow bands.

That they were pure Caucasians could not be disputed, but evidently they were mixed with the yellow-banded races that are

mentioned. I am adhering to the real gray strain as being distinctive of the true mountain bees of the Caucasus, and they are more evenly tempered and do not at any time cluster out, like Italians. In hot weather, and where they have room on Jumbo frames, (I prefer big frames. I use for the brood-nest ten), they have never yet cast a natural swarm, and I have had a single queen to keep three of these hive-bodies full to overflowing of worker bees, and know what that means when there comes a big honey flow.

I enjoy very much the Editor's notes from abroad, and regret that he was unable to extend his trip into England.

CHAS. W. QUINN.

Beaumont, Tex., Oct. 18.

Bees More Numerous with Education

Bees in this section are in fine condition; brood-chambers full of nice clear sealed honey, and the steelweed is at its height of production. The frost is holding off late. Some colonies will store more than 200 pounds from the fall flow. We never had a case of bee disease in this part of Kentucky. Our only loss is with the let-alone beekeepers, such as queenlessness and a very light winter loss. Bees are getting more numerous since the owners study the anatomy and behavior of the bee.

CECIL WHITT.

Gimlet, Ky., Oct. 14.

Light Flow

We had a light flow of honey. This year's crop will be short.

F. F. GEORGE.

Fraser, Idaho, Sept. 28.

First Complete Failure in His Experience

I have 63 colonies and no honey this year. I have been in the business 10 years, and this is the first complete failure. I have been feeding to get the bees in good shape for winter.

J. E. FRENCH.

Cainsville, Mo.

Fair Crop of Honey in Indiana in 1914—Top Ventilation

The November number of the American Bee Journal for 1914 shows that the passed season, almost in all parts of this country, was a poor one. While the southern part of Indiana is not an excellent locality for honey production, in spite of the excessive drouth the yield of honey is far above the average of other localities. The amount of extracted honey per colony for this season is 82 pounds, with a great amount of stores left for wintering. All colonies are supplied with at least 50 pounds of honey for winter.

We had here two heavy honey flows, the first from May 12 until June 20, chiefly from tulip poplar (*Liriodendron tulipiferum*) and persimmons, and the other in the latter part of September and in the beginning of Octo-

American Bee Journal

UNTESTED Queens, 75c each; \$7.50 per doz. Nuclei, \$1.25 per frame. Bees, \$1.50 per pound. Full colonies, 8-frame, \$6.50; 10-frame, \$7.50. Stover Apiaries, Mayhew, Miss.

QUEENS, improved Red Clover Italians, bred for business, June 1 to Nov. 15. Untested Queens, 75c each; dozen, \$8.00; Select, \$1.00 each; dozen, \$10.00. Tested Queens, \$1.25; dozen, \$12.00. Safe arrival and satisfaction guaranteed. H. C. Clemons, Boyd, Ky.

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PURE Golden Queens, the best that twelve years can produce. Untested, \$1.50 each. Select tested, \$3.00 each. Breeders, \$5.00 to \$50. Send for booklet on "Bees and Diseases." Geo. M. Steele, 30 South 40th St., Philadelphia, Penna.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Golden and their honey-getting qualities. Price, \$1.00 each; Tested, \$2.00; Breeders, \$5.00 and \$10.00. 2Atf J. B. Brockwell, Barnetts, Va.

GOLDEN and 3-banded Italian and Carniolan queens, ready to ship after April 1st. Tested, \$1.00; 3 to 6, 95c each; 6 to 12 or more, 90c each. Untested, 75c each; 3 to 6, 70c each; 6 or more, 65c. Bees, per lb., \$1.50; Nuclei, per frame, \$1.50. C. B. Bankston, Buffalo, Leon Co., Tex.

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FOR SALE—1000 pounds of choice extracted Wisconsin honey. Ask for prices. Meyer Bros., Kiel, Wis.

NULL'S FAMOUS MELILOTUS HONEY, 10 lb. pail prepaid any express office east of the Rocky Mts., \$1.50. Null Co., Demopolis, Ala.

COMB HONEY—No. 1 Choice and No. 2 Colorado Standard Grades. Carload just in. State quantity wanted. Dadant & Sons, Hamilton, Ill.

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FOR SALE—Spanish needle, Hearts-ease No. 1 light comb, \$3.00 per case; Fancy, \$3.25; 24 Danz, sec. to case, 6 to 9 cases to carrier. Extracted, 125-lb. cases, 9c per pound. W. A. Latshaw Co., Carlisle, Ind.

EXTRACTED HONEY—Best Water White and nice Amber Alfalfa in 60-lb., 30-lb., and smaller tins. State quantity you want. Special prices on ton lots or over. Several carloads just in. Dadant & Sons, Hamilton, Ill.

PURE HONEY, California Sage, water white, 120 lbs. to a lb. Light amber honey, 120 lbs., 9c a lb. We have honey of several flavors. Price in gallon cans upon request. Sample, 10 cts. each. I. J. Stringham, 105 Park Place, New York, N. Y.

FOR SALE—A fine quality of honey for table use; gathered from alfalfa and the clovers. Case of twelve 5-lb. pails, \$6.00; case of six 10-lb. pails, \$6.25; case of two 60-lb. cans, \$10.50. Write for prices on large orders. Samples given. Virgil Sires, North Yakima, Wash.

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BETTER HIVES FOR LESS MONEY—Beekeepers' supplies and standard-bred Italian bees. Write for catalog. A. E. Burdick, Sunnyside, Wash.

MISCELLANEOUS

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THE DEMAND for 1914 subscriptions has been beyond expectations, and we find ourselves short of January, 1914, numbers. We will pay to cents each for the first twelve of these sent in to us good shape, or will credit you two months on your present subscription, American Bee Journal, Hamilton, Ill.

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FOR SALE—Single Comb Buff Orpington eggs for hatching, pure bloods; \$1.00 per 15 or \$5.00 per hundred. Satisfaction Guaranteed. W. H. Payne, Hamilton, Ill.

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FOR SALE—1000 colonies of bees in 10 apiaries. Located in Imperial Valley where crop failure is unknown. Owner started without capital less than five years ago. Is now retiring from active business. Profits for five years have averaged more than 100 percent annually. J. Edgar Ross, Brawley, Calif.

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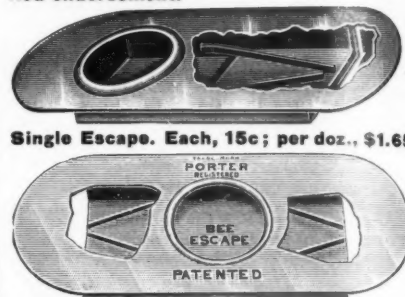
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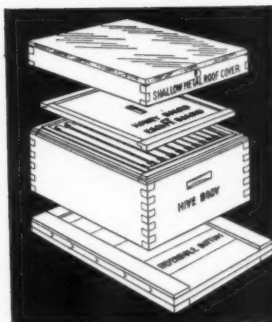
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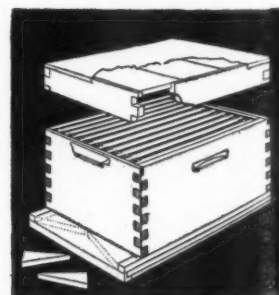
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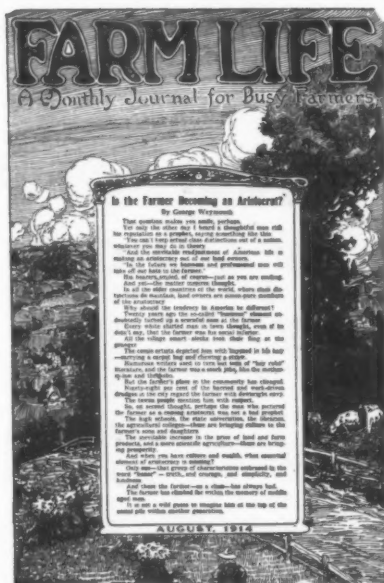
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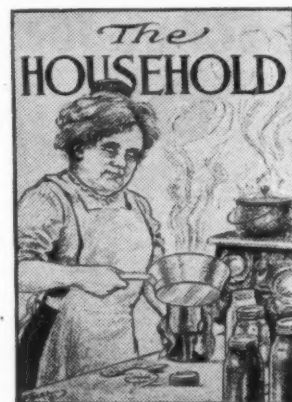
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Honey and Beeswax

CHICAGO, Nov. 10.—Comb honey is firmly held, all grades selling fairly well. The choice to fancy grades bringing 16@17c per pound, where the wood attached to the comb is allowed for. The amber grades range from 10@13c per pound less. There is no surplus of desirable grades up to the present time.

Extracted white clover, linden and water white sage sells at 9@10c per pound with other white grades ranging from 7@8c per pound. Ambers of fine flavor 7@8c per pound, with less desirable grades and flavors at from 5@6c per pound. Beeswax 31@33c per pound. R. A. BURNETT & CO.

CINCINNATI, Nov. 15.—There is nothing new to report. The demand for all grades of honey is uninteresting, and do not expect

it to be otherwise, for it seems this is an off year. Comb honey is moving a little at \$3.50 to \$4.00 a case, according to quantity and quality purchased. Fancy white clover extracted honey from 8@10c a pound. Southern amber extracted has a black eye in the way of prices, for the reason foreign honey is being diverted into the United States market with orders to sell at any price. We have heard of sales as low as 3½c a pound, which is rather hard on the southern producer. Beeswax seems to be easier, while we are still paying 30c a pound delivered here for choice bright yellow free from dirt, it can be bought for 25c a pound.

THE FRED W. MUTH CO.

NEW YORK, Nov. 18.—We have really nothing new to report. There is a fair demand for comb honey, and the prices are ruling about the same as in your last issue. We have had a good deal of trouble with New York State comb this season, on account of its candying and granulating. Shipments

which we received about a month ago are now candied solid, and are being returned to us by our customers. It is the first year since we have been in the business that we have so much comb honey candied, and cannot account for it. Producers will be dissatisfied with their returns, and it is no satisfaction in handling candied comb honey.

Extracted is in fair demand, prices ruling about the same. Beeswax is dull, and declining, 30c per pound being the limit for choice domestic stock, while West India wax sells around 23@24c per pound.

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KANSAS CITY, Mo., Nov. 16.—The supply of best comb and extracted honey is fair. The demand is also fair. We quote as follows: No. 1 white comb, 24 section cases, \$3.00 to \$3.10; No. 2, \$2.75 to \$2.90. No. 1 amber, \$3.00; No. 2, \$2.50 to \$2.75. White extracted honey, 8c; amber, 6@7c. Chunk honey 10c. Beeswax, 25@28c. Cans, 10c. C. C. CLEMONS PR.

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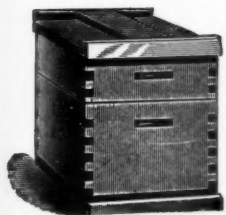
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